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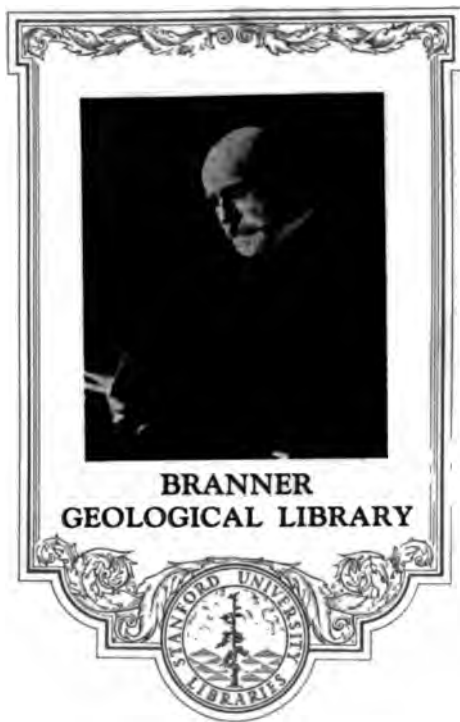
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AN  
ILLUSTRATED AND DESCRIPTIVE  
CATALOGUE  
OF  
RECENT BIVALVE SHELLS.

BY  
SYLVANUS HANLEY,  
B.A. OXFORD, F.L.S., ETC.  
AUTHOR OF 'IPSA LINNÆI CONCHYLIA,' 'BRITISH MOLLUSCA' (SHELL  
PORTION), 'MONOGRAPH OF TELLINA,' ETC., ETC.

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WITH 960 FIGURES BY WOOD AND SOWERBY,

FORMING AN  
APPENDIX  
TO THE  
INDEX TESTACEOLOGICUS.

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1842 TO 1856.

[see n. v.]

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## PREFACE.

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THE aim of the present book was to describe and notice a large number of shells in a limited number of pages. It was designed, originally, as an abridged translation of the excellent edition of Lamarck's 'Animaux sans Vertèbres' by Deshayes, enlarged by the addition of such species as appeared to the writer to be most decidedly distinct from any enumerated in those volumes. This selection proved embarrassing; since many of the Lamarckian diagnoses, being far too brief for the purpose of definition, suited fairly enough, from their very succinctness, the characters of several subsequently named shells, which otherwise the author would have gladly introduced. Up to the genus *Nucula* the plan of the work has been uniform, the species of the 'Animaux' following each other in numerical succession; beyond that point, the author has allowed himself a less fettered exercise of his more matured judgment; nevertheless, no Lamarckian species has been wilfully omitted.

In the *Naiades*, the skeleton outline given by Lea in the second edition of his 'Synopsis' has been accepted as a standard authority; because such contradictory opinions,



relative to the extent of permitted variation and the priority of appellations, prevailed among the naturalists of America, that it appeared advisable to adopt, as a whole, the conclusions of one who has devoted a lifetime to the almost exclusive study of fresh-water Testacea. This portion will be found extremely useful to the lovers of *Unio*, as it gives the proper references to the works of those writers, whose names only had been quoted in the 'Synopsis,' and, moreover, furnishes condensed descriptions (compiled from the volumes indicated in the synonymy) of almost all the *Naiades* known at the period when it issued from the press.

A work written at long intervals of time (from 1842 to 1856) must of necessity prove unequal in its execution: were the earlier pages reprinted a great many errors would be avoided; they sprung chiefly from a modest deference to the opinions of older conchologists. The earlier published descriptions were, in the main, either translations, copies or abridgements; those of the Appendix, on the contrary, have been almost invariably drawn up from the shells themselves and frequently from the original types. Peculiar labour has been bestowed upon the *Ostrea*, *Spondyli* and *Mytilacea*; *Terebratula*, likewise, has been worked up with more than ordinary attention.

Several of the figures are only miniature copies of published engravings, but the cabinets of Cuming, Metcalfe and Hanley have furnished the artist with subjects for the majority of the illustrations. Due care has been exercised in avoiding the delineation of species which had already been adequately represented in the 'INDEX TESTACEOLOGICUS,' of which this work, written expressly as a com-

panion to it, should be regarded as an integral portion and APPENDIX. It was in following up this design that our first plate was numbered 9, the sequence to the eighth and final supplementary plate of that useful iconography: in every other respect this volume is independent of it.

The terms "posterior" and "anterior" have been used in accordance with the ideas of the older conchologists, and conversely to their modern signification. This is to be regretted, and has only been continued to the end, in order that the phraseology should harmonise throughout.

Allusion has already been made to the long period which has elapsed since the commencement of these pages. It behoves us now to furnish the several dates of their publication. Sheets B, c, were separately issued at the close of 1842,\* and conjointly (p. 1 to 144) with the seven succeeding ones in the early part of 1843, almost simultaneously with plates 9 to 13, and their explanatory text. Sheets L to s (p. 145 to 272) appeared at the close of the same year, and were followed, about a twelvemonth after, by plates 14, 15, 16; and at a long interval (two years or thereabouts) by plates 17, 18, 19. Sheet r (p. 273 to 288), although it has been printed for many years, now makes its

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\* Under the title of 'Lamarck's Species of Shells.' The letterpress was accompanied by two plates, the figures in which had been transferred to stone from our first five plates (on which they had been somewhat promiscuously engraved, having been designed for lithographic transposition) and the earlier engravings of the 'Index Testaceologicus.' The publisher, dissatisfied with their execution, discontinued the work, which should contain 3 plates and 224 pages.

first appearance.\* The conclusion will not be found disfigured by those gross typographical mistakes which pervade the earlier portion, errors too numerous for the author to venture upon a list of "Errata." A correct printer cannot be too highly appreciated by the writer upon natural science; the reputation of Linnæus has suffered from the misprints of his synonymy.

In the arrangement of the synonyms brevity alone was originally aimed at (such a reference as "Ch. f. 399" was to simply imply that Chemnitz had there figured the same shell, not necessarily that he had similarly designated it), Lamarck's names were usually placed first, and the vicious principle adopted of ascribing species, not to their first describer, but to the systematist who may have eventually located them in the modern genus. After page 289 the order of priority has been more attended to, and the references to such writers as Lister, Knorr and Argenville, who did not attach binomial epithets to their drawings, have been inserted in brackets.

The author's enlarged experience has enabled him, indeed, to discern these and many other blemishes in his youthful work, but has, likewise, strengthened his conviction of the great utility of the condensation, portability and suggestiveness which characterize it. The delicacy and minute fidelity of Wood's engravings may, perchance, be equalled, but cannot be surpassed.

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\* Plates 20 to 24, with their explanatory text, were published on the 26th of July last.

## PRINCIPAL ABBREVIATIONS.

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- Adams* (or *Adams and Reeve*), *Samar*. Adams and Reeve in the Zoology of H.M.S. Samarang. Mollusca; p. 1 to 24 in 1848; p. 25 to 44 in 1850; p. 45 to 88 in 1850.
- Adams, Shells Pan.* Adams' Catalogue of Shells collected at Panama, 1852 (from An. Lyceum, N. Y. vol. v.)
- Adans.* (or *Adan.*) *Seneg.* Adanson's Histoire Naturelle du Sénégal, 1757.
- Alder*, and *Alder, Cat. Sup.* Alder in the Transactions of the Natural H. Soc. of Northumberland, vols. i. ii.
- Am. Mar. C.* = *Conr. Am. Mar. C.*
- Am. Ph. Tr.* or *Am. Tr.* Transactions of the American Philosophical Society, n. s. vols. iv. to x.
- An.* before a species signifies perhaps, or possibly.
- Ann.* (or *An.*) *du Mus.* Annales du Museum d'Histoire Naturelle.
- Annals* (or *Ann.*) *Lyceum N. H.* (or *Y.* or *York*). Annals of the Lyceum of Natural History of New York.
- Annals* (or *An.*) *Nat.* (or *N.*) *Hist.* (or *H.*) Annals of Natural History.
- Ann.* (or *An.*) *Phil.* (or *Ph.*) Annals of Philosophy. Vol. xxv. (= n. s. ix.) is chiefly referred to (1825).
- Ann.* (or *An.*) *Sc. Nat.* Annales des Sciences Naturelles. Series 1, 2.
- Archiv. de Musée.* Archives du Museum d'Histoire Naturelle. From 1840.
- Arg.* or *Argenville.* Argenville's Conchyliologie, 1757.
- Ast.* = *Quoy, Ast.*
- B, Born*, or *Born, Mus. Cæs.* Born's Testacea Musei Cæsarei Vindobonensis, 1780. His Index Musei, &c. in 1788.
- Barnes.* Barnes in Silliman's Journal of Science, vols. vi. vii. xiii.
- Bean.* Bean in the Magazine of Natural History, vols. vi. viii.; also in British Marine Conchology.

- Beechey* (or *Beech.*) *Zool.* (or *Z.*) Gray and Sowerby (the former chiefly) in the Zoology of Capt. Beechey's Voyage, 1839.
- Benson.* Benson in *Z. J.*; also in *Journal of the Asiatic Society of Bengal*, and *Gleanings in Science*, vol. ii. (1830).
- *MSS.* Benson's unpublished names for Uniones, engraved by Wood long ago, but not published until July last.
- Beschäft. Berlin.* Beschäftigungen der Berlinischen Gesellschaft Naturforschende Freunde, 1775 to 1779.
- Blain.* (or *Bl.*) Blainville's *Manuel de Malacologie et de Conchologie*, 1825 to 1827.
- *Dict. Sc. Nat.* Blainville in the *Dictionnaire des Sciences Naturelles*, 1824.
- Bolten.* *Museum Boltenianum*, ed. 2, 1819. Names, not descriptions, for figures in Knorr, &c.
- Bon.* Bonanni's *Recreatio mentis et oculi*, 1684. In Italian, 1688.
- Bosc, Hist. Coq.* (or *des Coq.*) Bosc's *Histoire Naturelle des Coquilles*, 1801.
- Boston* (or *Bost.*) *Journ.* (or *J.*) *N. H.* at times. *Boston Journal of Natural History.*
- Bowd. El. Biv.* Bowdich's *Elements of Conchology. Bivalves*, 1822.
- Brande Journal.* *Journal of Science and the Arts* (edit. Brande).
- Brit. Mar. Con.* (or *C.*) *British Marine Conchology*, 1844. The revised Index by Hanley.
- Brit.* (or *Br.*) *Mol.* Forbes and Hanley's *British Mollusca*; vol. i. 1848; ii. 1849, 1850; iii. 1850, 1851; iv. 1851, 1852, 1853.
- Brod.* Broderip; usually in *Z. P.* or *Z. J.* or *Z. T.*
- Brooke* or *Brook's Intro.* Brookes' *Introduction to the Study of Conchology*, 1815.
- Brown*, or *Brown, Brit. Conc.* Brown, usually in the next work; also in Wern. Mem. ii.
- *Illust.* (or *Il.*) *Conch.* (or *C.*) *Britain* (or *B.*) Brown's *Illustrations of the Recent Conchology of G. Britain and Ireland*, 1844.
- Brug.* or *Brug. Dict.* (or *E.*) Bruguière's *Dictionnaire des Vers*, in the *Encyclopédie Méthodique*, 1789 to 1792.
- *Cat. Mem. de la Soc. de Hist. Nat.* Bruguière in the *Mémoires de la Société d'Histoire Naturelle de Paris*, 1792.
- *Jour. N. H.* Bruguière in the *Journal d'Histoire Naturelle*, 1792.
- Cail. Mag. de Z.* Caillaud in Guérin's *Magasin de Zoologie.*
- *Meroe* (or *Voy. a Meroe*). Caillaud's *Voyage a Meroë*, vol. iv. 1824.

- Ch. Chem.* or *Chemnitz.* Chemnitz's continuation of Martini's work; vol. iv. 1780; v. 1781; vi. 1782; vii. 1784; viii. 1785; ix. 1786; x. 1788; xi. 1799.
- Chenu, Il. Conch.* (or *C.*) Chenu's Illustrations de Conchyliologie.
- C. I.* or *Conch.* (or *Con.*) *Il.* (or *I.*) Sowerby's Conchological Illustrations.
- Conch. Mag.* Malacological and Conchological Magazine, 1838.
- Conc. Man.* = *Sow. Conch. Man.*
- Conch.* (or *Con.*) *Mis.* = *Hanl. Conch. Mis.*
- Con.* (or *Conr.*) *Am. Conch.* (or *C.* or *M. C.*) or *Mar. Con.* Conrad's American Marine Conchology, 1831.
- *Jour. A. N. S. Phil.* or *J. Phil.* Conrad in the Journal of the Academy of Natural Sciences of Philadelphia (chiefly in vol. vii.)
- (or *Conrad*) *Mon.* Conrad's Monography of the family Unionidæ &c. N. America; December, 1835 to July, 1840 (No. 12).
- *N. F. W. S.* (of *Am.* at times). Conrad's New Freshwater Shells of the United States, 1834. An appendix added about a year after.
- Cont. of Mac. Ly.* Contributions of the Maclurian Lyceum, &c. i. 1827.
- Cooper.* Cooper's MS. names quoted by Lea.
- Coquille* = *Lesson, Voy. de Coq.*
- Costa.* Costa in next work; also in Osservazioni Zoologiche sull' Isola di Pantellaria, and in Antologia di Scienze Naturali, i.
- *Test. Sic.* Costa's Catalogo sistematico e ragionato dei Testacei delle due Sicilie, 1829.
- Couth.* or *Couthouy.* Couthouy in the Boston Jl. of Natural History, ii. (1838).
- Crouch,* or *Crouch Lam.* (or *Int.*) Crouch's Illustrated Introduction to Lamarck's Conchology, 1827.
- Cuvier, R. An. edit. Audouin.* The Illustrated French edition of Cuvier's Règne Animal. From 1836.
- D.* Dillwyn's Descriptive Catalogue of Recent Shells, 1817.
- Da Costa* (or *Cost.*) Da Costa's British Conchology, 1778.
- Daud.* Daudin, quoted on the authority of Lamarck for *Erodona* (= *Corbula*) *Mactroides* (Bosc, ii. p. 329, t. 6, f. 1).
- Davids.* or *David.* Davidson in the Annals of Natural History, 1847, 1852; also in the Zoological Proceedings.
- *Bul. Geol. France.* Davidson in the Bulletin de la Société Géologique de France, ser. 2, ii.
- Dekay.* Dekay's Zoology of New York. Mollusca, 1843.

- Del.* Delessert's *Recueil de Coquilles decrites par Lamarck*, et non encore figurés, 1841.
- Desh. E.* (or *Enc.*) *Méth.* (or *Mét.*) Deshayes's continuation of Bruguière's *Dictionnaire des Vers*, in the *Encyclopédie Méthodique*; vol. ii. 1830; iii. 1832.
- *Exped.* (or *Exp.* or *Exp. Sc.*) *Morea* (or *Mor.* or *Morée*). Deshayes in the Zoological portion of the *Expédition Scientifique de Morée*; vol. iii. 1836.
- *in Cuv.* Deshayes in the *Mollusca* of the illustrated edition of Cuvier's *Règne Animal*.
- *in* (or *ed.*) *Lam.* Deshayes' edition of Lamarck's *Animaux sans Vertèbres*; vol. vi. 1835; vii. 1836; viii. 1838; ix. 1843; x. 1844; xi. 1845.
- *Mag. Z.* Deshayes in Guérin's *Magasin de Zoologie*.
- *Rev. Cuv.* Deshayes in the *Revue Zoologique de la Société Cuvierenne*.
- *Traité Elém.* Deshayes' *Traité Elementaire de Conchyliologie*.
- *Vener.* Deshayes' *Catalogue of the Conchifera (Veneridæ)* in the *British Museum*; p. 1 to 216 in 1853; rest in 1854.
- *Zool. Belang. Voy.* Deshayes in Belanger's *Voyage aux Indes Orientales*. *Zool.* 1834.
- Dieffen.* (or *Dief.*) *N. Z.* Gray's *Appendix to Dieffenbach's Travels in N. Zealand*, 1843.
- Don.* or *Donovan.* Donovan's *Natural History of British Shells*, 1779 to 1802.
- *Nat. Rep.* Donovan's *Naturalists' Repository*, 1823 to 1827.
- D'Orbigny* or *D'Orbig.* Usually = next, but sometimes refers to his MS. names, as in *Solen Thuelcha* (*S. scalprum*, D'Orb. Am.) and *Modiola Patagonica*, which the author recognized as new, when sent by D'Orbigny to Sowerby.
- D'Orb.* (or *D'Orbig.*) *Am.* (or *S. Am.*) D'Orbigny's *Voyage dans l'Amérique Meridionale*, 1835 to 1846 (bivalves).
- *Mol. Can.* (*Cari. wrongly*). D'Orbigny in Webbe and Berthelot's *H. N. des Iles Canaries*, 1839.
- *Mol. Cuba* (or *Cuba Shells*). D'Orbigny in Ramon de Sagra's *Histoire, &c., de Cuba*.
- Dorset* (or *Dor.* or *Dors.*) *Cat.* Rackett's edition of Pulteney's *Catalogue of the Birds, Shells, &c., Dorsetshire*, 1813.
- Drap.* Draparnaud's *Histoire Naturelle des Mollusques terrestres et fluviatiles de la France*, 1805.
- Dunker, Moll. Guin.* (or *Guinea Shells*). Dunker's *Index Molluscorum quæ, &c., Guineam*, 1853.

- E. or E. M.* Tableau Encyclopédique et Méthodique des trois Règnes de la Nature. Vers. Placés. List of names by Eory St. Vincent.
- Eaton, or Eat. or Eat.* in *Tr. Jour. Med.* Eaton in the Transylvania Journal of Medicine, 1831.
- Eichw.* *Fauna Casp.* Eichwald's Fauna Caspio-Caucasia, 1841.  
— (or *Eichwald*) *Zool. Spec.* Eichwald's Zoologica Specimen.
- Enc. Am. Nich. Conch. or Ency. Am.* = *Enc. Nich.*
- Exot. Conch.* Exotic Conchology: ed. 1, imperfect, from 1802 to 1835; ed. 2, by Hanley, 1841.
- Fabr. in Danske V. S. S.* O. Fabricius in Danske Videnskabsberetning Selskabs Skrifter, 1788.  
— *Faun. Græcl. (or Gr.)* O. Fabricius' Fauna Græcæ, 1780.
- Far.* Favanne de Montferrière's enlarged edition of Argenville's Conchyliologie, 1789.
- Fér. or Ferrussac.* Ferrussac: here chiefly quoted for his remarks on Naiades in Guérin's *Magasin de Zoologie*, 1845.
- Fischer, Mus. Demid.* Fischer de Wartenburg's *Museum Demidoff*, vol. iii. 1807. Descriptions indefinite.
- Flem. or Fl. or F.* Fleming's History of British Animals, 1829.
- Forbes, Report Brit. An.* Forbes on Egan Mollusca in the Report of the British Association for 1843.
- Forskæl, Desc. Anim.* Forskæl's *Descriptiones Animalium*, &c., quæ in itinere Orientali observata, 1775.
- Gm. or Gmel. or Gmelin.* Gmelin's edition of the *Systema Naturæ* of Linnaeus, vol. i. pt. 6. 1769.
- Gould, or Gould Mus.* Gould's Report on the Invertebrata of Massachusetts, 1841.
- Gray.* More frequently refers to his papers in *Ann. Phil.* 1825.  
— *Analyst.* Gray in the Analyst for 1836 (vol. viii.)  
— *App. Fly.* Gray's Appendix to Jukes' Voyage of the Fly; vol. ii. 1847.  
— *App. to Dieffenbach Zool. (or in Dief. Zool.)* = *Dieffen. N. Z.*  
— *Brach.* Gray and Woodward's Catalogue of the Brachiopoda in the British Museum, 1853.  
— *in Brit. Mus. (or M. B.)* Gray's names attached to the tablets of shells in the British Museum.  
— *Cat. An. (or Plac.)* Gray's Catalogue of the Placentata and Anomiatæ in the British Museum, 1850.  
— *Parry (or in Parry, Sup. or Sup. to Parry).* Gray's shells in the Supplement to the Appendix of Parry's voyage, 1824.



- Gray, Spic. Zool.* Gray's Spicilegia Zoologica; from 1828 to 1830.  
 — *Turt.* Gray's edition of Turton's Manual of Land and Fresh-water Shells, 1840.  
 — *Yates N. Zeal.* Gray's Appendix to Yates's New Zealand.  
*Grif. Cuv. Mol.* Gray's Mollusca in Griffith's edition of Cuvier's Animal Kingdom, 1834.  
*Gronov.* Meuschen in the Zoophylaceum Gronovianum; pt. 3, 1781.  
*Gual.* Gualtieri's Index Testarum, quæ adservantur in Museo ejus, 1742.  
*Guilding.* Guilding's MSS. quoted by Sowerby, Jun. for *Pecten Soverbii*.  
*Hanl. Conch. Mis.* Hanley's Conchological Miscellany; parts 1, 2, 3, together, in 1854.  
 — *Ipsa Lin.* Hanley's Ipsa Linnæi Conchylia, 1855: a posthumous edition of the Vermes Testacea of Linnæus, from his MSS. and collection.  
*Henderson's Cuvier.* Cuvier's Animal Kingdom; Mollusca. Published by Henderson: plates from Blainville's Malacologie, and Guérin's Iconographie.  
*Hildr.* Hildreth in Silliman's Journal, xiv.  
*Hinds, Sulp.* Hinds in the Zoology &c. Sulphur. Mollusca, 1844.  
*Hæning. Cran.* (or *Mon. Cran.*) Hæninghaus's Monographie der Gattung Crania.  
*Humboldt and Bonpl. Zool.* = *Valenc. in Humb.*  
*Ipsa Lin.* = *Hanl. Ipsa Lin.*  
*Jay.* Catalogue of the shells &c. of J. Jay; ed. 3, with plates, 1839.  
*Jenyns, Mon.* (or *Monog. in Camb. Ph. Tr.*) Jenyns's monograph of British Pisidia, in the Transactions of the Cambridge Philosophical Society, vol. iv.  
*Jour.* (or *J.*) *Ac.* (or *A.*) *N. S. Phil.* or *J. Philad.* Journal of the Academy of Natural Sciences of Philadelphia.  
 — (or *J.*) *Conch.* Petit's Journal de Conchyliologie; i. 1850; ii. 1851; iii. 1852; iv. 1853.  
*Kam. Cab. Rud.* Kämmerer's Conchylien im Cabinet, &c., Schwartzburg-Rudolstadt, 1786; Supplem. 1791. No specific names.  
*Kiener.* Kiener's Coquilles Vivantes; from 1834 to 1854.  
*Klein.* Klein's Tentamen &c. Ostracologicæ, 1753.

- Kn.* or *Knorr.* Knorr's Vergnügen der augen &c. 1757 to 1773; as *Délices de la Nature*, 1779. No scientific names.
- Krauss.* or *Krauss Sud-Af. Mol.* Krauss' Sud-Afrikanischen Mollusken, 1848.
- Kryn. Bul. Nat. Mosc.* Krynicki in the Bulletin &c. Naturalistes de Moscou, vol. vi. (1833), &c.
- Kust.* or *Kust. Ch.* Kuster's edition of Martini and Chemnitz.
- Lam.* Lamarck's Animaux sans Vertèbres; vol. v. 1818; vi. pt. 1, 1819.
- Lea.* Lea, usually in the next work; also in his Synopsis of the family of the Naiades, 1838.
- on *Unio* (or *U.*) Lea's Observations upon the genus *Unio*, &c.; vol. i. 1832; ii. 1834 to 1838; iii. 1840 to 1842. All the papers are, likewise, in *Am. Ph. Tr.*
- Leach.* Usually refers to his Zoological Miscellany; vol. i. 1814; ii. 1815; iii. 1817.
- in *Ross Voy.* (or *Voy. Ross.*) Leach's Appendix to Ross's voyage, 1819. Descriptions inadequate.
- Lesson.* Lesson in the *Rev. Zool.*; also in his *Centurie Zoologique* (1830 to 1832), and his *Illustrations de Zoologie*, 1832; &c.
- *Voy. de Coq.* Lesson in the *Voyage &c. de la Coquille*. *Zool.* 1830.
- Lin.* Linnæus; usually = *Lin. Sys.*
- *Gmel.* = *Gmel.*
- *Mantis.* The Vermes in the *Mantissa altera Plantarum* of Linnæus, 1771. Reprinted (being scarce) in Hanley's *Ipsa Linnæi Conchylia*.
- *Sys.* The *Systema Naturæ* of Linnæus; ed. 10 (the first with specific names in 1758; ed. 12, i. pt. 2, 1767, is usually here referred to. The Stockholm edition (reprinted verbatim in *Ipsa Linnæi Conchylia*) is the best.
- *Trans.* (or *Tr.* or *T.*) = *Trans. Lin.*
- Lister*, or *List.* Lister's *Historiæ &c. Conchyliorum*; ed. 3 (Dillwyn's), 1823. Ed. 1 was issued from 1685 to 1692.
- Loven*, or *Loven, Ind.* (or *Mol.*) *Scan.* or *Ind. Scan. Moll.* Loven's Index Molluscorum litora Scandinaviæ, 1846.
- Macgil.* (or *Macg.*) *Aberd.* (or *Ab.*) Macgillivray's History of the Molluscous Animals, &c., of Aberdeen, 1843.
- Macg. Edin. Phil. J.* Macgillivray in the Edinburgh New Philosophical Journal, 1827, &c.
- Mag. N. H.* Loudon's and Charlesworth's Magazine of Natural History.

- Mag. Z.* (or *de Z.*) Guerin's Magasin de Zoologie.  
*Mant.* = *Lin. Mantis*.  
*Mar.* Martini's Conchylien Cabinet; vol. i. 1769; ii. 1773; iii. 1774.  
 The Linnean specific names are not prefixed as headings, but are usually indicated in the synonymy.  
*Maton.* Maton in the Transactions of the Linnean Society; vols. viii. x. xiii.  
*Mat. and Rack.* (or *Rac.*) Maton and Rackett in vol. viii. of the Transactions of the Linnean Society, 1807.  
*Mawe, or Mawe Conc.* Mawe's Linnean System of Conchology, 1823.  
*Mem. Soc. H. N. Paris.* Mémoires de la Société d'Histoire Naturelle de Paris.  
*Menke Cat.* Menke's Verzeichniss &c. Conchylien &c. Malsburg, 1829.  
 — *N. Hol.* (or *Mol. Nov. Hol.*) or *Spec. N. Holland Mol.* Menke's Specimen Molluscorum Novæ Hollandiæ, 1843.  
 — *Synop.* (or *Synop. Met. Mol.* or *Synopsis*). Menke's Synopsis Methodica Molluscorum, ed. 2, 1830.  
*Michel.* A misprint for Michaud (Supplement to Draparnaud).  
*Mid. or Midd.* (or *Middend.*) *Ros.* (or *Mal. Ros.*) Middendorff's Malacozoologia Rossica, pt. 3, 1849.  
 — *Sibir. Z.* Middendorff's Reise &c. Sibiriens. Zoologie, vol. ii. 1851.  
*Moll. Grænl.* (or *Grænl. Mol.* or *Möller, Moll. Grænl.*) Möller's Index Molluscorum Grœnlandiæ, 1842.  
*Mont.* Montagu's Testacea Britannica, 1803.  
 — *Sup.* Supplement to the preceding, 1808.  
 — *Tr. Lin.* Montagu in the Transactions of the Linnean Society.  
*Morelet, Test. Novis.* Morelet's Testacea Novissima; pt. i. 1849; pt. ii. 1851.  
*Muhl.* Megerle von Mühlfeldt in the Magasin der Gesellschaft Naturforschender Freunde zu Berlin, 1818; &c.  
*Muller.* Usually = ~~next~~; sometimes refers to his Vermium Terrestrium, &c. Pt. 2, 1774.  
 — *Zool. D.* Muller's Zoologia Danica, 1788, 1789.  
 — *Zool. D. Prod.* Muller's Zoologiæ Danicæ Prodomus, 1776. Utterly inadequate diagnoses.  
*Munster.* Munster in Goldfuss' Petrefacta. Fossils.  
*Murray, Fund. Test.* Murray's Fundamenta Testaceologiæ.  
*Mus. Demid.* = *Fischer, Mus. Demid.*  
*Naturf.* Die Naturforscher. Rarely scientific names.

- Nils. N. A. Holm.* Nilsson in the *Nova Acta Holmiæ*.  
*Nobis* = *Hanley*.  
*Nouv.* (or *N.*) *Ann. du Mus.* = *Ann. du Mus. new series*.  
*Olafsen Is. Res.* Olafsen's Reise durch Island, 1722.  
*Olivi.* Olivi's *Zoologia Adriatica*, 1792. Utterly inadequate descriptions.  
*Otho Fabr. Dankse V. S.* (or *Skriv.* or *Sk.*) = *Fabr. in Dankse, &c.*  
*Pallas, Itin.* Pallas's Reisen &c. Russ. Reichs. 1771, 1773, 1776.  
 — *Mis. Z.* Pallas's *Miscellanea Zoologica*, 1766.  
*Pay., Payr., or Payr. Corsic.* (or *Cat.* or *Cat. Cors.*) Payraudeau's Catalogue des Annelides et des Mollusques de l'Île de Corse, 1826.  
*Pen. or Pennant.* Pennant's British Zoology, vol. iv. (ed. 4), 1777.  
*Penny Cyc.* Figures in the Penny Cyclopædia.  
*Petit.* Petit's MSS. quoted by Sowerby for *Pecten madreporarum*.  
*Petiv.* Petiver's *Gazophylacii Naturæ, &c.* 1702 to 1711. No scientific names.  
*Pfeif.* C. Pfeiffer's *Deutscher Land-u-Süsswasser-Mollusken*; pt. i. 1821; pt. ii. 1824; pt. iii. 1828.  
*Philippi, Phil. or Philip., or Phil.* (or *Ph.*) *Sic.* Philippi's *Enumeratio Molluscorum Siciliæ*: vol. i. 1836; ii. 1844.  
 — *Conch.* (or *N. C.* or *Ab. und Bes. Conch.* or *Philippi's Abbildungen*). Philippi's *Abbildungen und Beschreibungen Neuer &c. Conchylien*; vol. i. 1842 to 1845; ii. 1845 to 1847; iii. 1847 to 1851.  
 — *in Kust. Ch.* Philippi's monographs in Kuster's edition of Martini and Chemnitz.  
*Phil. Mag.* The Philosophical Magazine.  
*Phil. Wieg.* Philippi in Wiegmann's *Archiv. für Naturgeschichte*.  
*Poli.* Poli's *Testacea utriusque Siciliæ*, vol. i. 1791; ii. 1795.  
*Proc.* (or *Pr.*) *Bost.* Proceedings of the Boston Society of Natural History.  
 — *Philad.* Proceedings of the Academy of Natural Sciences of Philadelphia.  
*Pult.* Pulteney's Catalogue of the Birds, Shells, &c. of Dorsetshire, 1799.  
*Quoy, or Quoy Ast.* Quoy and Gaimard in the *Zoologie of the Voyage de l'Astrolabe*. Mollusques, 1832, &c.  
*Raf. or Raf. Ann. de Sc. Phy.* Rafinesque in the *Annales &c. Sciences Physiques*, 1820; translated by Poulson, 1832.

- Rang. Man. Mol.* Rang's Manuel &c. des Mollusques, 1829.
- Rav. or Rave.* Ravenel's 'Catalogue,' quoted by Lea.
- Reeve, or Reeve Sys. (or C. S.)* Reeve's Conchologia Systematica, 1841 to 1843.
- *I. or Ic. (or Conch. Icon. or Ic.)* Reeve's Conchologia Iconica; from 1842 to now. The genus is always referred to.
- Regenf.* Regenfuss' Choix de Coquillages, &c. 1758. No scientific names.
- Renieri.* Renieri's Tavola Alphabetica.
- Retz.* Philipson's (præside Retz.) Dissertatio, &c. nova Testaceorum Genera, 1788.
- Rev. (or Revue) Z. (or Cuv. or Z. Cuv. or Zool. Cuv.)* Guérin's Revue Zoologique de la Société Cuvierienne; from 1838.
- Risso.* Risso's Histoire Naturelle &c. de l'Europe; vol. iv. 1826.
- Roissy, Hist. des Coq.* Roissy's continuation of Montfort's Histoire &c. des Mollusques, 1805.
- Rossm. or Ross.* Rossmässler's Iconographie der Land und Süßwasser Mollusken; 1835 to 1844 (pt. 12).
- Rumph.* Rumph's Amboinsche Rariteitskammer, 1705.
- Savig. (or Sav.) Egypt.* Savigny's Explication, &c. des planches des Mollusques; from the Description de l'Égypte, 1826.
- Say, Am. C. (or Conch. or Con.)* Say's American Conchology; pts. i. ii. 1830; pt. iii. 1831; pts. iv. v. 1832; pt. vi. 1834; pt. vii. posthumous.
- *Nich. (or Nich. Enc. Am. Con.)* Say in the second and third American editions of Nicholson's Cyclopædia, 1818: reprinted as a pamphlet, 1819.
- *Transylv. Jour.* Say in the Transylvania Journal of Medicine, 1832; reprinted as 'Descriptions of some new Terrestrial and Fluvial Shells of N. America.'
- Scacchi.* Scacchi, usually in his Catalogus Conchyliorum Regni Neapolitani, 1836; also in Antologia di Scienze Naturali, i.
- *Lettera test. Napoli.* Lettera di A. Scacchi su Vari Testacei Neapolitani, 1837.
- *Os. Zool.* Scacchi's Osservazioni Zoologiche, 1833.
- Schmidt.* Schmidt in Rossmässler's 'Iconographie.'
- Schrift. Berlin. Gesel.* Schriften der Berlinischen Gesellschaft der Naturforsch. Freunde, 1780 to 1785.
- Schrot. or Schrater.* Usually = next.
- (or *Schrät. or Schrater*) *Ein.* Schröter's Einleitung in die Conchylien-Kenntniss nach Linné; i. 1783; ii. 1784; iii. 1786.
- (or *Schrät. or Schrater*) *Fluss. (or F. or Fluss.)* Schröter's Geschichte der Flussconchylien, 1779.

- Schumacher.* Schumacher's Essai d'un Nouveau Système &c. Vers Testacés, 1817.
- Seba.* Seba's Locupletissimi rerum Naturalium Thesauri, &c.; vol. iii. 1761. No scientific names.
- Sil. Journ.* (or *J.* or *Am. J.*) Silliman's American Journal of Science.
- Skris.* (or *Sk.*) *Nat.* Skrifter af Naturhistorie Selskabet. Kiøbenhavn; i. pt. 1, 1790; ii. pt. 1, 1791; ii. pt. 2, and iii. pt. 1, 1793; iii. pt. 2, 1794; iv. pt. 1, 1797; iv. pt. 2, 1798; v. pt. 1, 1799; v. pt. 2, 1802.
- Sloan. Jamaic. Histor.* Sloane's Voyage &c. Jamaica. No scientific names.
- Sow. Ap. Stutch.* Sowerby's (senior) Appendix to the Sale-Catalogue of Stutchbury's collection. A good plate.
- *Man. or Conch. Man.* Sowerby's (junior) Conchological Manual; ed. ii. 1842.
- *G.* (or *Gen.*) Sowerby's (senior) Genera of Recent and Fossil Shells.
- , *Jun.* G. Sowerby, junior; the son of the late G. B. Sowerby.
- *Sp.* (or *Spec.*) *Con.* Sowerby's (senior) Species Conchyliorum; pt. i. 1830; ii. (imperfect) 1855.
- *Tank.* (or *Tank. Cat.*) Sowerby's (senior) Appendix to the Catalogue of the Shells of the late Earl of Tankerville, 1825.
- *Th.* Sowerby's (junior) Thesaurus Conchyliorum; from 1842 to now.
- Speng. Sk. Nat. Selsk.* Spengler in the Skrifter, &c. (see *Sk. Nat.*)
- Spix, or Spix, Braz.* (or *Test. Braz.*) Wagner in Spix's Testacea Fluvialitia in itinere per Brasiliam, &c. collecta, 1827.
- Studer.* Studer's Systematisches, &c. Schweizer Conchylien, 1820.
- Stutch. or Stut.* Stutchbury; chiefly in Z. J.
- Sulp.* = *Hinds, Sulp.*
- Swain. Ex. Con.* (or *C.*) = *Exot. Conch.*
- *Z. I.* (or *Il.*) Swainson's Zoological Illustrations; ser. 1, 1820 to 1823; ser. 2, 1829 to 1833.
- Swainson, Malac.* Swainson's Treatise on Malacology, 1840.
- Trans.* (or *Tr.*) *Am. Ph.* (or *Phil. Soc.*) = *Am. Phil. Soc.*
- *Lin.* Transactions of the Linnean Society of London.
- Turt. or Turton* (or *Tur.*) *D. B.* (or *Dith. Brit.* or *Biv.* or *B.*) Turton's Conchylia Dithyra Insularum Britannicarum, or British Bivalves, 1822. Edition with best plates in 1848.
- *Dict.* Turton's Conchological Dictionary of the British Islands, 1819.

*Turt. M.* (or *Man.*) Turton's Manual of the Land and Freshwater Shells of the British Islands, 1831.

*Valen. in Humb.* (or *Humboldt Voy.* or *Hum. Zool.*) Valenciennes in the 'Recueil &c. Zoologie' of Humboldt and Bonpland's Travels. Ended in 1832.

*Valenc.* (or *Val.*) *Venus* (or *Ven.*) Valenciennes in the Voyage de la Venus; from 1846.

*Valent.* (or *Val.*) *Amboy.* (or *Amb.*) Valentyn's Abhandl. von Schnecken &c. Amboyno, 1773. No scientific names.

*Voy. Ast.* = *Quoy, Ast.*

*Voyage de la Venus* = *Valenc. Venus.*

*W. or Wood.* Wood's Index Testaceologicus; ed. 1 (no plates) 1818; ed. 2, 1828.

*Wagn. Test. Braz.* = *Spix.*

*Wern. Mem.* Memoirs of the Wernerian Natural-Historical Society.

*Wieg. Arc.* (or *Arch.*) Wiegmann's Archiv. fur Naturgeschichte; from 1835.

*Wood, G. C.* Wood's General Conchology, 1815.

*W. S. or Wood Sup.* Supplement to the Index Testaceologicus, 1828.

*Woodw.* Woodward's Manual of the Mollusca; pt. 2, 1854.

*Zeit. Mal.* Menke's Zeitschrift fur Malakozoologie; vol. i. 1844; ii. 1845; iii. 1846; &c.

*Zieg.* Ziegler's MS. names adopted by Rossmässler.

*Zool. D.* = *Muller, Zool. D.*

*Z.* (or *Zool.*) *Il.* = *Swain. Z. I.*

— *J.* The Zoological Journal; vol. i. 1824, 1825; ii. 1825, 1826; iii. 1827, 1828; iv. 1828, 1829; v. 1829 to 1834.

— *M.* Gray's Zoological Miscellany, 1831.

— *P.* (or *Proc.*) Proceedings of the Zoological Society of London.

*Z. T.* (or *Tr.*) Transactions of the Zoological Society of London; vol. i. 1833 to 1836.

THE  
SPECIES OF SHELLS.

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TESTACEOUS MOLLUSCA.

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CLASS CONCHIFERA.

*Animal soft, without articulations, destitute of head or organs of vision, always fixed within a bivalve shell, having external branchiæ, a simple circulation and a unilocular heart.*

ORDER DIMYARIA.

*Shell having two separate lateral muscular impressions.*

SECTION CRASSIPEDES.

*The mantle closed in front, or partly so; foot thick, posterior; shell gaping when closed.*

TRIBE TUBICOLA.

*Shell either contained in a testaceous sheath distinct from its valves, or incrustated wholly or partly in the wall of this tube, or projecting outwards.*

ASPERGILLUM.

*Sheath tubular, testaceous, attenuated towards the anterior termination, where it is open, and thickened posteriorly into a club, where the valves of the shell are incrustated on its walls; club convex, with a terminal disk, perforated with scattered, somewhat tubular punctures, having a fissure in the centre.*

A. JAVANUM. *Lam.* 1.—SERPULA PENIS. *Lin.* 1267.—S. AQUARIA. *D. p.* 1083.—*Mar. f.* 7.—*W. t.* 38. *f.* 34. Tube white, nearly smooth, being but slightly wrinkled annularly, increasing in size towards the posterior extremity which is terminated by a perforated disk with a radiated border . . 4.—*Indian Ocean.*

A. VAGINIFERUM. *Lam.* 2.—*Sow. G. f.* 1, 2.—*Reeve. t.* 17. *f.* 1, 2. Tube very long, white, sub-articulated, with foliaceous tubes at the joints; terminal disk with the radiated border extremely short.—4, but very much larger tubes have been found.—*Red Sea.*



A. *NOVÆ ZELANDIÆ*. *Lam.* 3.—*Fav.* t. 79. *E.* White clouded with flesh colour; tube wrinkled annularly and suddenly increasing below the perforated disc to a size superior to that appendage which is small and without a border.—*Smaller than the preceding.*—*New Zealand.*

A. *AGGLUTINANS*. *Lam.* 4. Tube twisted, sub-clavate, with other bodies attached to it; disc without a border, its surface roughened by numerous minute tubes. 3.—*New Holland.*<sup>1</sup>

### CLAVAGELLA.

*Sheath tubular, testaceous, attenuated, and open before; terminating posteriorly in an oval, subcompressed club, (often roughened by spiniform tubes); club showing on one side a valve of the shell, attached to its walls; the other valve unattached, in the sheath.*

C. *APERTA*. *Sow. G. f.* 1, 2, 3, 4.—*Desh. in Lam.* 6. p. 25.—*Mag. de Z.* 1842. t. 49, 51, & 50. f. 1, 2. Tube short, very clavate, very widely open above; aperture infundibuliform, its margin wavy, foliaceous, scalloped; the stages of growth evidenced by similar markings: valves triangular, pearly and widely gaping, the unattached one thick and transversely wrinkled.

C. *ELONGATA*. *Brod. Z. T.* 1. t. 35. f. 1 to 4.—*Mag. de Z.* 1842. t. 50. f. 3. Chamber elongated ovate; unattached valve elongated, subtriangular, convex, with strong concentric wrinkles, glossy within: umbone acute.—*Pacific?*

C. *LATA*. *Brod. Z. T.* 1. t. 35. f. 8, 9, 10. Chamber rounded ovate; free valve rather broad, subtriangular, rather convex, concentrically wrinkled; glossy within in both valves, and the muscular impressions strong: umbone rather rounded.—*Pacific.*<sup>2</sup>

C. *MELITENSIS*. *Brod. Z. T.* 1. t. 35. f. 5 to 8.—*Mag. de Z.* 1842. t. 50. f. 4. Shell rather rounded, wrinkled, rather glossy within: tube longitudinally wrinkled. . . *Malta.*

C. *AUSTRALIS*. *Sow. in Appendix to Stutchbury's Catalogue,* t. 1. f. 1. . . Tube simple and rounded; free valve oblong and rather convex.

CLAV. *BALANORUM*, *Schacchi*.—*Annals Nat. Hist.*—*Mag. de Zool.* 1842. t. 52. Valves subtriangular and wrinkled; receptacle oval, rounded, produced above into a subquadrangular tube.—*Pausilippe in masses of Balani.*

<sup>1</sup> Perhaps Lister, t. 548. f. 3, may be added as a species. Mr. Gray has proposed its separation as *A. Listeri*. See too *A. Sparsum*, *Sow. G.*—*Reeve. t.* 17. f. 3, 4, 5. *A. Dichotomy*, *Gray, &c.*

<sup>2</sup> Caillaud states that this is not distinct from *Aperta*.

## FISTULANA.

*With a tubular testaceous sheath, tumid, and closed posteriorly attenuated at the anterior end, open at the summit, and containing an unattached bivalve shell; valves of the shell equal, and gaping when shut.*

*F. CLAVA.* Lam. 1.—Bl. t. 81. f. 3.—Reeve. t. 19. Tube straight and slender, club-shaped; the valves of the shell white and elongated, their extremities somewhat arched,  $3\frac{1}{2}$ —*Indian Ocean*.<sup>1</sup>

*F. GREGATA.* Lam. 3.—TEREDO CLAVA. Gen. 3478.—D. p. 1090.—W. t. 38. f. 4. Tubes club-shaped, flexuous, grouped, brownish; valves narrow and arcuated; with two other unguiculated and serrated appendages.  $2\frac{1}{2}$ .—*Coromandel*.

*F. LAGENULA.* Lam. 4.—E. t. 167. f. 23. Small, laterally affixed; tube flask-shaped, articulated by transverse segments.  $1\frac{1}{2}$ . *Extremely rare.*

## SEPTARIA.

*With a very long testaceous tube, gradually attenuated anteriorly, and appearing as if divided internally by vaulted unfinished partitions; anterior end of the tube terminated by two other slender tubes, which are not divided.*

*S. ARENARIA.* Lam.—SERPULA POLYTHALAMIA. Lin. 1269.—TEREDO GIGANTEA. D. p. 1087.—W. t. 38 f. 1.—Mart. f. 6, 11. Tube taper, white, subcylindrical, nearly straight, thick, diaphanous, wrinkled transversely; structure radiated: 2 internal tubes at the summit; inside yellowish .. 30..  $1\frac{1}{2}$ .—*Indian Ocean*.

## TEREDO.

*Tube testaceous, cylindrical, and tortuous, percious at both extremities, and covering the animal.—Shell bivalve, placed externally, and outside the tube.*

*T. NAVALIS*.<sup>\*</sup> Lin. 1267.—D. p. 1089.—Lam. 1.—E. t. 167. f. 1 to 5.—Turt. Bir. t. 12. f. 1, 2, 3.—Sow. G.—Reeve. t. 21.—W. t. 38. f. 2. Subcylindrical, smooth, whitish, rather flexuous and slightly tapering, semiconcamerated near the smaller end: the valves ear-shaped, one of them with a curved denticle on the margin above the teeth: pallets spoon-shaped, convex without, concave within, terminating at one end in a linear elongation, and at the other with a thick callus.—*Europe*.<sup>4</sup>

<sup>1</sup> For Lamarck's *F. Corniformis* see *Teredo*.

<sup>4</sup> The *Navalis* of continental authors appears to differ. See *Philippi*. p. 2. t. 1. f. 9.—*Poli*. 3. t. 57. f. 4, 5, 6.—“*Palmules* 2. simple and semilunate.”

*T. PALMULATUS.* *Lam.* 2.—*Gray in Phil. Mag.* 1827.—*Adanson. Act. de l'Acad. des Sc.* 1759. *t.* 9. *f.* 12.—*Bl.* *t.* 80. *bis.* *f.* 8. Tube cylindrical, thin; shell ovate, globular, the front lobe narrow triangular, lower edge rounded, very finely concentrically striated, central band thin, hinder portion smooth, hinder dorsal edge ovate expanded (not recurved); internal tooth broad, compressed, sickle-shaped, at right angles with the inner side of the shell: pallet short at the base, its setaceous end compressed, end broad pinnated and articulated.—*Sumatra.*

*T. CARINATA.* *Gray in Mag. Phil.* 1827... Tube long, cylindrical: shell subglobular, the front lobe triangular, lower edge straight, rather oblique, concentrically grooved: medial band thin, hinder portion with concentric wrinkles, posterior dorsal area expanded, recurved, parallel to the hinge: edge deeply keeled internally: internal tooth compressed, curved, placed obliquely with respect to the inner surface of the valve: pallet, with its base short setaceous end compressed, end broad, linear-lanceolate, pinnately articulated.—*Sumatra.*

*T. BIPENNATUS.\** *Turton Dic. f.* 28 & 40.—*Turt. Biv. p.* 15.—*Gray in Phil. Mag.* 1827. Valves exactly like the last in shape but twice its size, and the front lobe rather larger, the hinder portion nearly smooth, and the inner edge not so much keeled: pallet with a very long setaceous stern (6 inches), the end short and pinnately articulated, ends of the joints long and filiform: tube thick, not concamerated.

*T. CORNIFORMIS.* *Desh. in Lam.* 6. *p.* 29.—*FISTULANA C. Lam.* 2.—*Fav. t.* 5. *N.*—*Bl. t.* 81. *f.* 4.?<sup>1</sup>—*T. UTRICULUS?* *Gmel.* 3748.—*Kœm. Cab. Rud. p.* 7. *t.* 1.?<sup>1</sup> Slender club-shaped, undulatingly twisted; mouth divided by two enclosed tubes—variety, more twisted, the posterior end with some arched chambers.—*Indian Ocean.*<sup>1</sup>

*T. NANA.\** *Turton Biv. p.* 16. *t.* 2. *f.* 6, 7. The valves rounded and without auricles behind; a strong conic tooth on the margin above the teeth.

*T. MALLEOLUS.\** *Turton Biv. p.* 255. *t.* 2. *f.* 19. Tube very thin and slightly semiconcamerated at the termination; valves ear-shaped behind, and the auricles reflected: the accessorial valves transverse and mallet-shaped.

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<sup>1</sup> I have a shell which agrees tolerably well with Lamarck's description. The tube possesses a kind of double wall, between which are winding septæ.—Blainville's figure is that of the *T. Utriculus* of Gmelin.—(*W. t.* 38. *f.* 3.) Our figures are copied from Favanne and Kaämmerer.

TRIBE PHOLADARIA.

*Devoid of a tubular sheath: valves with accessory pieces or considerably gaping posteriorly.*

PHOLAS.

*Shell bivalve, equivalve, transverse, gaping at both extremities, with various accessory pieces either on the hinge or below it; inferior margin of the valves inflected.*

\* Valves not divided by a radiating groove.

*P. DACTYLUS.\** Lin. 1110.—*D. p.* 35.—*Ch. f.* 859.—*E. t.* 168. *f.* 2, 3, 4.—*Lam.* 1.—*Don. t.* 118.—*B. t. 1. f.* 7.—*Sow. G.*—*Reeve. t.* 24. *f.* 1.—*Wood. G. C. t.* 13.—*Turt. B. p.* 8.—*Mont. p.* 20.—*W. t. 2. f.* 1. Elongated-oblong, beaked at one end and rounded at the other, with concentric waved muricated ridges and indistinct radiating striae towards the beaks; margin above the umbones reflected, circular and supported by numerous small plates so as to form quadrangular cells: 4 accessory plates. 4 or 5.—*Europe.\**

*P. ORIENTALIS.* Gmel. 3216.—*D. p.* 36.—*Lam.* 2.—*Ch. f.* 860.—*W. t. 2. f.* 2. Elongated-oblong, white, brittle, and nearly closed at one end, one half of each valve smooth and the other marked with reticulated striae; margin straight.  $1\frac{1}{2}$  .. 6.—*Siam and Tranquebar.* Somewhat resembles the last but is not beaked.

*P. CANDIDA.\** Lin. 1111.—*D. p.* 36.—*Lam.* 3.—*W. t. 2. f.* 3. *Don. t.* 132.—*Ch. f.* 861, 2.—*Wood. G. C. t.* 14. *f.* 3, 4. Oblong, rounded at both ends, ventral margin entirely convex and not at all indented, covered with decussated prickly striae which posteriorly form distant radiating rows of prickles (but not ribs): margin above the hinge reflected and covered with an elongated accessorial plate: a toothlike process on the hinge, ascending obliquely and anteriorly.  $\frac{3}{4}$  .. 2.—*Europe.*

*P. PARVA.\** Mont. *p.* 22. *t. 1. f.* 7, 8.—*D. p.* 38.—*W. t. 2. f.* 6.—*Turt. Bir. p.* 9.—*P. DACTYLOIDES, Lam.* 4. Ovate, beaked posteriorly, rough with reticulated rather prickly striae except anteriorly;

\* *P. Oblongata* Say is probably this species, although its beak and the number of its accessory valves is not mentioned.

*P. CALLOSA.* Lam. 8. Ovate-oblong, sinuated. posteriorly with curling striae, anteriorly smooth; hinge plate rather prominent and globose.—*Bayonne.* From the brevity of this description, I am unable to recognize the species, the figures quoted by Deshayes however (*List. t.* 433. and Brooke, *t. 1. f.* 7, 8.) are distorted *Dactyli.*

fold above the hinge without cells : a smooth tubercle on the inner margin above the teeth : a single accessorial valve at the hinge.  $\frac{3}{4}$  . .  $1\frac{1}{4}$ .

P. SILICULA. *Lam.* 5.—*Del.* 1. f. 19. Narrow-oblong not beaked, white, with radiating spinous ribs, and concentric transverse striæ ; a callous elongated tooth in each valve. 1.—*Mauritius*.

P. COSTATA. *Lin.* 1111.—*D.* p. 36.—*Lam.* 6.—*E.* t. 169. f. 1, 2.—*Reeve.* t. 23.—*Sow. G.*—*W.* t. 2. f. 4. Oblong-ovate, whitish or cream-coloured, covered with strong crenulated longitudinal ribs, which become abruptly closer at the smaller end. 2 . . 5.—*S. Europe and America*.

P. TRUNCATA. *Say, Jour. A. N. S. Phil.* 2. p. 321. Oblong, sub-pentangular, posteriorly beaked and obtusely cuneiform in the middle, anteriorly broadly truncated at the tip : with transverse and longitudinal striæ which posteriorly are muricated with small erect scales not arched beneath, an anterior space devoid of the striæ : hinge callus formed of the duplicature of the hinge margin, with a small toothlike callosity on the inner edge projecting backwards : tooth curved, prominent, slender, flat.  $\frac{3}{4}$  . .  $1\frac{1}{10}$ .—*N. America*.

P. CRUCIGER. *Sow. Z. P.* 1834. Elongated-oblong, anteriorly rounded, posteriorly with the ventral edge open but not forming a beak : with very close and numerous narrow radiating ribs covering the whole surface except the anterior slope, where the very close and concentric wrinkles which roughen the ribs become almost lamellar : hinge margin reflected, its inner edge with an oblique tooth-like callus : accessory valve solitary, anterior, and transverse.  $\frac{1}{10}$  . .  $1\frac{1}{10}$ .—*C. America*.

P. CAMPECHENSIS. *Gmel.* 3216.—*CANDIDA*, var. *D.* p. 37.—*List.* t. 432. f. 275.—*CHILOENSIS*, *King in Z. J.* vol. 5. Elongated, smooth and rounded anteriorly ; posteriorly not beaked, with radiating rows of rather distant spinous scales situated on the concentric elevated lines of growth, (which are not at all undulated) thus forming rhomboids ; hinge-plate cellular, little elevated ; accessory valves 3, the two posterior and sub-triangular are angulated and channelled posteriorly, and truncated anteriorly, where they are terminated by an upright triangular piece : apophysis deeply channelled, not broad.  $3\frac{1}{4}$ .—*S. America*.

P. CLAUSUS, *Gray in Bowdich*. Transversely elongated, anteriorly acuminate, posteriorly rounded ; tumid, with rather distant, concentric, raised striæ, (except at the anterior end) whose distant but regular scales form seeming rays from the hinge ; no posterior gape, the area being filled by a smooth or radiatingly ribbed space : hinge margin much elevated, and abruptly truncated at the umbones anteriorly : hinge without an apophysis, two tubercular teeth on each hinge margin : accessory plate ?  $1\frac{1}{4}$  . .  $2\frac{3}{4}$ .—*Africa*.

P. SUBTRUNCATA, *Sow. Z. P.* 1834.—*AN.* P. SIMILIS, *Gray in Yates, N. Zeal.* Ovate oblong, scabrous, anteriorly with a

rounded off subtruncation, smooth; posterior ventral margin with a very large gape: accessory valve solitary and posterior: lanceolate and acuminate posteriorly.  $\frac{1}{2}$  to  $1\frac{1}{4}$ .—*W. Columbia*. Very like *Parva*.

*\*\* Valves divided by an indented radiating groove.*

*P. CRISPATA.\** *Lin.* 1111.—*D.* p. 40.—*Lam.* 7.—*Ch. f.* 872, 3, 4.—*Don.* t. 62.—*Wood. G. C. t.* 15. f. 4, 5.—*Mont.* p. 23.—*Turt. B.* p. 6.—*W. t.* 2. f. 5. Oval, gibbous, whitish, rounded at one end, and forming a short beak at the other; a longitudinal furrow in the middle, on the posterior side of which the shell is covered with mucated striæ, on the anterior transversely wrinkled: gape wide.  $1\frac{1}{2}$  to  $2\frac{1}{2}$ .—*N. and W. Europe*.

*P. CLAVATA.\** *Lam.* 9.—*P. PUSILLA.* *Lin.* 1111.—*D.* p. 33.—*Ch. f.* 867, 8, 9.—*P. Striata.* *Lin.* 1111.—*W. t.* 2. f. 7.—*Wood. G. C. t.* 16. f. 1, 2, 3, 4, 8.—*Don.* t. 116.—*Reece.* t. 24. f. 2.—*Sow. G. f.* 2.—*D.* p. 37. Oblong, rounded, white, and of a remarkably conoid shape; the broader end strongly reticulated by arched striæ, the other parts except a smooth triangular space at the posterior ventral margin faintly striated: the shield which covers the hinge heart-shaped, and beneath it a narrow plate joined to the membrane which connects the valves; a narrow ventral plate and membrane which seems to prevent the shell from opening except at the ends.  $\frac{1}{2}$  to 1.—*America, &c.*

*P. OYUM.* *Gray in W. S. f.* 4. Sub-cuneiform, posteriorly inflated, rounded and somewhat gaping, anteriorly attenuated: valves divided by a longitudinal groove, anterior to which the shell is nearly smooth; the posterior dorsal portion with minute raised oblique wavy wrinkles crossing the more or less distinct radiating riblets, posterior ventral portion with distant divaricating striæ; hinge margin raised, reflected: accessory valve sub-rotund, dorsal and posterior: teeth thin and flattened.  $1\frac{1}{2}$ .—*The young without the posterior ventral portion. The sulcus forms a distinct tooth at the interior ventral edge.*

*P. FALCATA.* *Wood. G. C. t.* 16. f. 5, 6, 7.—*D.* p. 39.—*W. t.* 2. f. 8. Suboval, ventral margin posteriorly much incurved, divided by a longitudinal groove, the posterior compartment being very tumid, short, and rough with sub-dentated striæ, the anterior compressed, with simple transverse striæ: whitish, the gape wide, the hinge with a forked tooth.  $\frac{3}{4}$ .—*Shape of Crispata.*

*P. CALVA.* *Gray. Z. P.* 1834. Ovate, posteriorly retuse, anteriorly sub-acuminate, gaping; each valve divided into 3 surfaces, the posterior one roughish, the middle one with a horny epidermis and concentrically striated, the anterior one with horny, imbricated, smooth scales, which gradually become less, and are anteriorly rounded: the posterior ventral space smooth and closed:

the posterior dorsal accessory valve smooth and five-lobed : upper and lower edges with a horny-shelly epidermis.  $1\frac{1}{3}$ ..2.—*Panama*. When young has no epidermis or accessory valve, but a large gape.

*P. ACUMINATA*. *Sow. Z. P.* 1834. Ovate, posteriorly rounded, anteriorly acuminate, with a very small gape ; the valves divided into 3 surfaces, the posterior one roughish, the middle one with a horny epidermis, and transversely striated, the anterior one with smooth, gradually smaller, anteriorly acuminate, imbricated, horny scales : posterior ventral portion closed and smooth : posterior dorsal accessory valve, large, subquadrangular and anteriorly lobed : upper and lower edges with a shelly-horny epidermis, the dorsal covering posteriorly inflated.  $\frac{2}{3}$ ..2.—*Panama*. The young differ as in the last species.

*P. MELANURA*. *Sow. Z. P.* 1834. Ovate, posteriorly rounded, anteriorly obtuse, with a moderate gape ; the valves divided by an impressed transversely grooved band ; the posterior area obliquely divided, the dorsal portion with radiating wrinkles, the ventral thinner and inflated ; anterior area concentrically striated, anteriorly with a black epidermis ; posterior dorsal edge inflated and reflected : with 2 anterior accessory valves which are sub-trigonal and vaulted above.  $\frac{1}{2}$ ..1  $\frac{1}{2}$ .—*W. Columbia*.

*P. CALIFORNICA*. *Conrad. Jour. A. N. S. Phil.* 7. p. 236. t. 18. f. 4.—*AN. P. JANELLI. Mag. de Zool.* Elongated, posteriorly rounded, anteriorly attenuated and subtruncated, ventral edge little arcuated ; posterior area gibbous, the concentric lines lamellar, crowded, undulated and crossed by numerous impressed lines ; accessory valves numerous, as well basal as dorsal : valves much compressed sub-medially, with an oblique groove, anterior slope angulated, anterior side with elevated laminæ : apophysis oblique, dilated : hinge margin within greatly thickened anteriorly. 4.

*P. QUADRA*. *Sow. Z. P.* 1834. Oblong, very thin, posteriorly inflated, rounded, anteriorly sub-attenuated sub-truncated ; the valves divided by an impressed transversely grooved band : posterior area obliquely divided, the dorsal portion with concentric scaly lamellæ, the ventral thinner, inflated, with radiating obsolete riblets : anterior surface with concentric grooves : posterior dorsal edge concave and reflected receiving the muscle, and covered with the epidermis which runs down upon four bladder-like substances, anteriorly, (two on each side) and then a calcareous tube conspicuous at the extremity. *var.*—The posterior dorsal edge inflated and reflected  $\frac{2}{3}$ ..1.—*W. Columbia*.

*P. TUBIFERA*. *Sow. Z. P.* 1834. Oblong, anteriorly sub-attenuated and sub truncated, posteriorly rounded : valves divided by an impressed transversely grooved band : the posterior surface obliquely divided, the dorsal portion with radiating grooves, decussated, the ventral, thinner and sub-inflated : anterior area concen-

trically striated: dorsal edge posteriorly reflected and inflated: with two anterior, dorsal, sub-ovate, accessory valves: the epidermis anteriorly running down upon two flattened valves and then a calcareous tube conspicuous at the extremity.  $\frac{2}{3}$ ..  $1\frac{1}{3}$ .—*W. Columbia*. Very like *Papyracea*: the intermediate ages without the tube.

P. PAPYRACEA.\* *Turt. B. p. 2. t. 1. f. 1 to 4*—*Sor. G.—Reev. t. 24. f. 3.*—*W. S. t. 1. f. 1.* Ovate oblong, closed and very obtuse posteriorly, open and truncated anteriorly, posterior margin reflected at the hinge into a thin nearly erect narrow plate; dirty white, divided by a longitudinal groove; anteriorly with depressed concentric lamellæ, posteriorly towards the hinge with close obliquely curved toothed thin ridges, the remaining portion nearly smooth: nacreous white within.—*Young*. (P. LAMELLATA. *Turt. Biv. t. 1. f. 5, 6*—*W. S. t. 1. f. 2.*)—Without the smooth space at the posterior ventral edge, and consequently with a large oval gape.  $1\frac{1}{2}$ .—*England*.

P. CURTA. *Sor. Z. P. 1834.* Oval, anteriorly acuminate, posteriorly rounded: valves divided by a transversely grooved band; the posterior area obliquely divided, the dorsal portion with radiating wrinkles and transverse striæ, the ventral thinner and sub-inflated: anterior surface with concentric striæ: accessory valve solitary, posterior dorsal, sub-acuminate at the ends and contracted in the middle: upper and lower edges with a horny testaceous epidermis which on the dorsal surface is anteriorly forked.  $\frac{7}{8}$  $\frac{1}{2}$ .—*W. Columbia*.

P. CORNEA. *Sor. Z. P. 1834.* Oblong, thin, posteriorly rounded, anteriorly obtuse: a thin horny epidermis; valves divided by a band; posterior area obliquely divided, the dorsal portion being rather rugose, the ventral smooth: anterior surface larger and smooth; with three accessory valves, the posterior dorsal one rounded, and sub-emarginated anteriorly: anterior gape large.  $\frac{5}{8}$  $\frac{2}{3}$ .—*W. Columbia*.

P. TUBERCLATA.\* *Turt. B. p. 5. t. 1. f. 7, 8.*—*W. S. t. 1. f. 3.* Oblong with the ventral margin posteriorly sinuated, but not forming a beak at its extremity; gape nearly orbicular: the transverse rough striæ disappearing anteriorly after crossing the longitudinal groove: a single accessorial valve and a rough tubercle on the edge above the teeth.  $\frac{3}{4}$ ..  $1\frac{1}{2}$ .—*England*.<sup>1</sup>

<sup>1</sup> In this genus we must include Turton's

#### XYLOPHAGA.

*Orbicular, æquivalve, inequilateral, posteriorly gaping, with two sub-triangular testaceous accessory pieces, a minute cardinal*



## GASTROCHÆNA.

*Equivalve, somewhat wedge-shaped, with a very large oval oblique posterior opening between the valves, the anterior extremity nearly closed; hinge linear marginal and without teeth.*

G. CUNEIFORMIS. *Lam.* 1.—*Reeve. t.* 20. *f.* 4, 5.—*Sow. G. f.* 4, 5.—*Pholas Hians. Gm.* 3217.—*D. p.* 39.—*Ch. f.* 1678 to 81.—*W. t.* 2. *f.* 11. Oval, thin, semitransparent, greyish white, with the valves converging above, convex in the middle and wedge-shaped below, with transverse arched striæ; hiatus oval and very large, occupying two-thirds of the length: teeth very small.  $1\frac{1}{2}$ .—*W. Indies.*

G. MYTILOIDES. *Lam.* 2.—*Rump. t.* 45. *f.* P. Oblong, anterior side truncated, and scarcely more than twice the length of the posterior; excepting a raised pyramidal radiating anterior space, which is crossed by elevated narrow ribs and covered with a tawny epidermis, the shell is almost smooth.  $1\frac{1}{2}$ .—*Isle of France.*

G. MODIOLINA.\* *Lam.* 3.—*Sow. G. f.* 1, 2, 3.—*Reeve. t.* 20. *f.* 1, 2, 3.—MYTILUS AMBIGUUS. *D. p.* 104.—MYA DUBIA. *Pen. —Don. t.* 108.—*W. t.* 2. *f.* 23.—G. HIANIS. *Fle. p.* 458.—G. PHOLADIA. *Turt. B. t.* 2. *f.* 8, 9. Small, thin, brittle, opaque, rounded at both ends and widely gaping on one side; pale brown and marked with concentric striæ: beaks nearly terminal and rather prominent.—*France, burrowed in stone.*

G. TRUNCATA. *Sow. Z. P.* 1834. Oblong, anteriorly with a rounded off truncation, posteriorly very short, sub-acuminated; striated and dirty whitish: an anterior thin lamellar epidermis.  $1\frac{1}{10} \dots 1\frac{2}{5}$ .—*Panama.*

G. OVATA. *Sow. Z. P.* 1834. Ovate, whitish, with concentric striæ, which are slender, lamellar, and following the shape of

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*tooth and an internal rib proceeding from the umbo to the basal margin of each valve. Two muscular impressions, the anterior large and obovate, the posterior smaller and situated near the edge of the dorsal margin.*

X. DORSALIS.\* *Turt. t.* 2. *f.* 4, 5.—*Sow. G. —Reeve. t.* 22. —*Flem. p.* 455.—PHOLAS X. *Desh in Lam.* 6. *p.* 47. Globular, thin, smooth, greenish yellow, gaping in front, the anterior part of the hinge margin produced; umbones turgid and sub-callous; a thickened inner girdle terminated by a tubercle surrounding the gape. *This interesting species which forms sinuous perforations in wood is the link between Pholas and Teredo, approximating rather to the former in being without an exterior tube, and possessing a shield which is small and divided into two.*

X. GLOBOSA. *Sow. Z. P.* 1835. Globose anterior dorsal edge sloping, the accessory valves rather large.  $\frac{7}{10} \dots \frac{2}{3}$ .—*Valparaiso.*

the margin : anterior side quadruple the length of the posterior, and rounded at the extremity : gape very large.  $\frac{1}{10}$ .. 1 $\frac{1}{2}$ .—*Isle of Plata*.

G. BREVIS. Sow. Z. P. 1834. Abbreviated-ovate, thin, pellucid, striated : anterior side seven times as long as the posterior.  $\frac{1}{2}$ ..  $\frac{1}{3}$ .—*Gallapagos*.

G. HYALINA. Sow. Z. P. 1834. Oval, whitish, hyaline, smoothish, with the back longitudinally striated : posterior side short ; gape equal to  $\frac{2}{3}$ ds of the length of the shell.  $\frac{1}{2}$ ..  $\frac{1}{3}$ .—*Lord Hood's Island*.

G. RUGOLOSÆ. Sow. Z. P. 1834. Oblong, whitish, striated, rugulose ; the posterior wrinkles near the gaping margin, crowded and acute ; gape extremely long.  $\frac{2}{3}$ ..  $\frac{1}{3}$ .—*Gallapagos*.

TRIBE SOLENIDÆ.

Shell transversely elongated, destitute of accessory pieces, and gaping at the lateral extremities only ; ligament external.

SOLENI.

Equivalve, transversely elongated, gaping at both extremities ; beaks very small, prominent ; primary teeth small, varying in number, sometimes none, seldom inserted in a cardinal pit ; ligament external.

\* Hinge terminal.

S. VAGINA.\* Lin. 1113.—D. p. 57.—Lam. 1.—Don. t. 110.—Mont. p. 48.—Turt. B. p. 79.—W. t. 3. f. 3. Sub-cylindrical, becoming more compressed towards the truncated anterior extremity, orange-yellow sometimes stained with brown : a stricture across the posterior extremity which is slightly oblique : a single tooth in each valve, the opposite sides strengthened by a rib. 1..5.—*Europe*.

S. CORNEUS. Lam. 2.—Del. t. 2. f. 2. Small, linear, straight, margins nearly parallel, uniform horn-coloured, epidermis very thin : hinge with a single tooth in each valve. 2.—*Java*.

S. VAGINOIDES. Lam. 3.—Del. t. 2. f. 3. S. CORNEUS. W. S. t. 1. f. 2. Linear, slightly curved, reddish ; hinge with one tooth in each valve. 3 $\frac{1}{2}$ .—*Isles of New Holland*.

S. SILIQUA.\* Lin. 1113.—D. p. 58.—Lam. 4.—Ch. f. 29.—Don. t. 46.—Mont. p. 46.—Turt. B. p. 80.—W. t. 3. f. 1. Straight, with an olive brown cuticle, which is darkest at the posterior extremity : a single tooth and a remote lateral lamina in one valve, in the other, two besides a lateral inclined tooth, corresponding with the opposite lamina. 1..7.—*Europe*.

S. ENSIS.\* Lin. 1114.—D. p. 59.—Lam. 5.—Ch. f. 29, 30.—

*Don. t. 50.*—*W. t. 3. f. 6.*—*List. t. 411.*—*Mont. p. 48.*—*Turt. B. p. 82.* Linear, slightly curved, brittle, cuticle olive brown: hinge with two teeth in one valve and one in the other, with one of the lateral teeth grooved . . . up to 6.—*Europe.*

*S. VIRIDIS.* *Say, Jour. A. N. S. Phil. 2. p. 316.* Fragile, elongated, compressed, posteriorly obliquely truncated, a little reflected and rounded near the base, anteriorly rounded and a little narrowed; cuticle pale green, slightly wrinkled concentrically, the wrinkles regularly rounded towards the extremity, dorsal edge nearly straight, ventral slightly curved; in each valve a tooth having a flattened vertical surface, which turns upon that of the opposite tooth.  $\frac{2}{3}$  . .  $2\frac{2}{3}$ .—*U. States.*

*S. LINEARIS.* *Chem.—D. p. 59.*—*Wood. G. C. p. 121. t. 27. f. 3.*—*Ch. f. 1931, 2.*—*W. t. 3. f. 6.* Linear, straight, narrow, sub-cylindrical, very thin, pale purplish rose colour: hinge with a single tooth in each valve.  $\frac{1}{2}$  . . 3.—*Nicobar Isles.*

*S. SCALPRUM.* *King in Z. J. 5.* Linear, sub-arcuated, fragile, rather broader and rounded anteriorly, posterior edge convex; entirely covered by a pea-green epidermis under which it is uniform white: inside white, hinge terminal, one valve with a double tooth resembling the sprouting horns of a heifer, besides an obtuse denticle, two distant and a rudimentary one in the other.  $\frac{2}{3}$  . .  $2\frac{2}{3}$ .—*Patagonia.*

*S. SLOANII.* *Gray in Brit. Mus.* Linear, straight, narrow, fragile, pellucid, rather broader and obtusely rounded anteriorly, truncated posteriorly: under a yellowish olive epidermis, white spotted with tawny brown: a sharp prominent tooth in one valve, the vestiges of one in the other.  $\frac{1}{2}$  . . 3.

*S. TRUNCATUS.* *Wood G. C. t. 26. f. 3.*—*D. p. 58.*—*Sow. G. f. 1.*—*Reeve. t. 25. f. 1.*—*Knorr. l. t. 28. f. 3.*—*W. t. 3. f. 4.*—*S. CEYLANENSIS, Leach in Z. M. l. t. 7* Linear, straight, breadth not more than quadruple the length, margins parallel the whole way, truncated at both ends, posteriorly the edge convex, anteriorly slightly concave and with the slightest border; the concentric bands purplish crimson: hinge with a single opposite tooth in each valve.  $1\frac{1}{4}$  . . 5.—*Ceylon, &c.*

*S. GUINENSIS.* *Gray in Brit. Mus.* Linear, straight, breadth but little more than quadruple the length, margins sub-parallel, truncated at both ends, anteriorly sub-directly so, posteriorly obliquely and with a slight hollow near the edge: under an olive-fulvous epidermis, white with purple madder lines of growth: hinge in each valve a single large stout tooth, having the surface at the point of contact perpendicularly flattened, semicircular and margined. . .  $2\frac{1}{2}$ .

*S. BREVIS.* *Gray in Brit. Mus.*—*S. TRUNCATUS, VAR.* *Wood. G. C. t. 27. f. 2.*—*D. p. 58.*—*Fav. t. 55. B. 1.*—*S. TRUNCATUS. Mawe. t. 5. f. 2.* Linear, straight, broad, margins

nearly parallel, and tapering slightly from the hinge, which is quite terminal and consists of but a single tooth in each valve, white with pink concentric bands, abruptly truncated and thick posteriorly. 5.—*American Seas*.

*S. THUELCHA.* *D'Orbigny.* Linear, straight, tapering anteriorly to a rounded termination, posteriorly sub-truncated, the edge convex; uniform white, polished, the epidermis dull yellow; a single tooth in each valve.  $\frac{1}{2}$ ..2 $\frac{1}{2}$ .—*S. America*.

\* \* *Hinge not quite central.*

*S. PYGMEUS.\** *Lam.* 6.—*S. PELLUCIDUS.* *Pen.* 4. *t.* 46. *f.* 22.—*Mont.* *p.* 49.—*Turt. B.* *p.* 83.—*D.* *p.* 60.—*W.* *t.* 3. *f.* 7. Pellucid, fragile, rounded at each end, hinge margin nearly straight, the ventral slightly curved; a single tooth in one valve and two in the other, besides contiguous lateral processes.  $\frac{1}{2}$ ..1.—*France, &c.*

*S. AMBIGUUS.* *Lam.* 7.—*E.* *vol.* 3. *p.* 960.—*Deles.* *t.* 2. *f.* 1.—*Swain. Z. I.* 1st ser. Linear, broad, nearly straight, margins parallel, whitish, sometimes with ochraceous rays, thick, anteriorly slightly rounded and obliquely truncated; umbones rather prominent, a single tooth in each valve.  $\frac{1}{2}$ ..4.—*America?*

*S. CULTELLUS.* *Lin.* 1114.—*D.* *p.* 61.—*Lam.* 8.—*Ch.* *f.* 36, 37.—*E.* *t.* 223. *f.* 4.—*W.* *t.* 3. *f.* 9. Linear, oval, somewhat curved, thin, brittle, whitish with tawny spots under a brown epidermis, finely striated concentrically; hinge with two teeth in one valve, a single one in the other.  $\frac{1}{2}$ ..2.—*Indian Ocean*.

*S. PLANUS.* *Lam.* 9.—*S. MAXIMUS.* *Gmel.* 15.—*Ch.* *f.* 35.—*E.* *t.* 223. *f.* 5.—*S. MAGNUS.* *D.* *p.* 61.—*W.* *t.* 3. *f.* 17. Linear, flattened, straight, sub-diaphanous, rounded at both ends, white under a yellowish epidermis, striated concentrically: hinge with two teeth in each valve, those of the left oblique and divergent; an internal radiating rib proceeds from the hinge. 1 $\frac{1}{2}$ ..4.—*India*.<sup>1</sup>

\* \* \* *Hinge nearly central.*

*S. LEGUMEN.\** *Lin.* 1114.—*D.* *p.* 61.—*Lam.* 11.—*Ch.* *f.* 32, 3, 4.—*Don.* *t.* 53.—*Mont.* *p.* 50.—*W.* *t.* 3. *f.* 8.—*PSAMMOBIA.* *L. Turt. B.* *p.* 90. Linear, rounded at both ends, hinge margin nearly straight, the ventral one slightly curved, so as to render the posterior end the narrower one; smooth, yellowish, thin, pellucid, brittle, with fine lines of growth; hinge strengthened by an oblique internal rib, a single tooth in one valve, two in the other, with lateral teeth simple in one valve and winged in the other.  $\frac{1}{2}$ ..4.—*Atlantic*.

*S. DOMBEI.* *Lam.* 12.—*E.* *t.* 224. *f.* 1. Linear-oval, strong, ventral margin incurved towards the middle, under the cuticle dull

<sup>1</sup> *S. MINUTUS*, *Lam.* 10, is his *Hiat. Arctica*.

purplish with an obsolete white anterior ray : hinge with two teeth in each valve, one of them nearly obsolete and very short.  $\frac{2}{3}$ ..3.

—*S. America*.

*S. JAVANICUS*. *Lam.* 13.—*Deles. t.* 2. *f.* Linear, straight, transversely narrow, yellow under a brown cuticle, rounded at the extremities, ventral edge incurved in the middle ; in one valve two teeth, in the other a single one : the middle bifid.  $2\frac{1}{2}$ .—*Java*.

*S. CARIBÆUS*. *Lam.* 14.—*S. GUINENSIS*. *D. p.* 62. ?—*E. t.* 225. *f.* 1.—*Lis. t.* 421. *f.* 265.—*W. t.* 3. *f.* 15. Elongated oblong, straight, posteriorly oblique, rounded, anterior dorsal edge incurved ; nearly smooth, ventricose, sub-pellucid, yellowish-white, the margin near the hinge thickened ; hinge with two teeth in one valve, a bifid one in the other.  $\frac{2}{3}$ ..2.—*New York*.

*S. CONSTRICTUS*. *Lam.* 15. Oblong, nearly straight, rounded at the ends, and rather smooth ; thin, white, and peculiar for the stricture in the middle.—*China & Japan*.

*S. COARCTATUS*. \* *Gmel.* 3227.—*D. p.* 64.—*Lam.* 17.—*S. ANTIQUATUS*. *Lam.* 15.—*Mont. p.* 52.—*Ch. f.* 45.—*W. t.* 3. *f.* 10. *S. CENTRALIS*. *Say (fide Jay)*. *PSAMMOBIA A. Turt. B. p.* 91. *S. CULTELLUS*. *Pen.* 4. *t.* 46. *f.* 25. Oblong, rounded at the extremities, hinge margin slightly convex, ventral rather concave ; white subpellucid, merely striated by the lines of growth which are more conspicuous at the extremities : hinge with a single tooth in one valve (at times the rudiments of a second) and two in the other, behind which the margin is callous. 1..2.—*Mediterranean, &c.*

*S. STRIGILATUS*. *Lin.* 1115.—*D. p.* 64.—*Lam.* 18.—*Ch. f.* 41, 2.—*W. t.* 3. *f.* 12.—*E. t.* 224. *f.* 3.—*Reeve. t.* 26. *f.* 4. Oval-oblong, strong, very convex, and rather more rounded at one end than the other, generally pink with two obsolete white rays ; two-thirds of the shell covered with oblique striæ besides the lines of growth. 1..2.—*Mediterranean & Atlantic*.

*S. RADIATUS*. *Lin.* 1114.—*D. p.* 63.—*Lam.* 19.—*Ch. f.* 389.—*List. t.* 422. *f.* 266.—*W. t.* 3. *f.* 14. Oblong, smooth, thin, brittle, straight, both within and without of a fine violet colour, with four white longitudinal rays, which become broader as they recede from the beaks ; epidermis green : hinge with two teeth in each valve, and a strong white depressed rib extending somewhat obliquely along the inside of the shell.  $2\frac{1}{4}$ .—*Sumatra*.

*An. var. ? SOLECURTUS LUCIDUS*. *Conr. Jour. A. N. S. Phil.* 7. With two white rays.—*U. States*.

*S. POLITUS*. *Wood. S. t.* 1. *f.* 6. Oblong, thin, rounded at both ends, ventral edge rather arcuated, ligamental tumid ; posteriorly shorter and narrower, the beaks being placed at  $\frac{1}{4}$ ths of the whole breadth posteriorly, lilac or fawn colour with four rather broad white rays : hinge strong and thickened, two emarginated stout teeth in one valve, a concave erect one in the other, a very

elevated sub-direct internal cross-bar extending from the hinge one half way to the margin. 1...2.—*Red Sea*.—*Epidermis* very thin.

*S. CANDIDUS*.\* *Renieri*.—*Ch. f.* 43.—*S. STRIGILATUS* of *British authors*. Elongated oblong, breadth twice and a half the length, ends rounded, uniform white, marked with coarse ridges of growth, and anteriorly with curved radiating strigæ: beaks sub-central, anterior slope with divaricating stria; ventral edge straightish, sub-incurved in the middle: an oblique and an erect tooth in each valve (in one valve the former rudimentary): nymphæ distinct.  $\frac{1}{2}$ ...1 $\frac{1}{2}$ .—*Mediterranean*, &c.

*S. SOLIDUS*. *Gray*. *Spic. Z. t.* 3. *f.* 12. Solid ovate, narrower anteriorly, rounded at both ends, dull white, convex, with obsolete concentric wrinkles: umbones convex, sub-posterior, dorsal edge sinuated: two short and elevated teeth in each valve, the posterior straight and sub-bifid, the other oblique: inside white. 1 $\frac{1}{2}$ ...2 $\frac{1}{2}$ .—*Peru*.

*S. INFLEXUS*. *Wood. G. C. t.* 32. *f.* 1, 2.—*D. p.* 62.—*W. t.* 3. *f.* 18. Elongated-oblong, greenish white under an orange-brown epidermis, posteriorly broader, anteriorly more than twice as long as posteriorly, ventral margin inflected, nearly smooth: inside white, two teeth in one valve and one in the other, besides a prominent convex radiating rib. 1...3.

*S. ORBICULATUS*. *Gray in W. S. f.* 4.—*PSAMMOTHIA* O. *Dezh. Mag. de Z.* 1839. *Mol. t.* 7. Rounded-ovate, narrower, nearly smooth, polished, much shorter and obliquely rounded posteriorly, not at all angulated, under an uniform yellowish-olive cuticle white; hinge with an acute and semicircular tooth in one valve, an acute and a sub-laminar tooth in the other; the nymphæ internally distinct. 1 $\frac{1}{2}$ ... $\frac{1}{2}$ .—*S. America*?

*S. COSTATUS*. *Say. Jour. A. N. S. Phil.* 2. *p.* 315.—*S. Sayii*. *Grif. Cuv. Mol. t.* 31.—*SOLECURTUS* C. *Say. Amer. Conc. t.* 18.—*Conrad. Am. C. t.* 24. *f.* 2. Elongated elliptical, very compressed, smooth, anterior side thrice as long as posterior; very thin, rounded at each end, under a yellowish olive cuticle pale violet red, with not more than three whitish rays: teeth two (sometimes obsolete) in each valve, the posterior one upright, the other bent forwards: an internal direct longitudinal rib spreading and becoming obsolete towards the ventral edge. 1 $\frac{1}{2}$ .—*New Jersey*.

*S. MEDIUS*. *Sow. in Beechey Zool. t.* 43. *f.* 2.—*MACHERA* *NITIDA*. *Gould Mas. p.* 33. *f.* 25, 6. Oblong, ligamental edge elongated and straightish, ventral slightly curved, posteriorly rounded and very short, anteriorly sub-attenuated and obtuse, smooth white or livid under a greenish or brownish yellow shining cuticle: inside white, with a posterior cross-bar: three teeth in one valve, two in the other. 2 $\frac{1}{2}$ .—*N. America*.

*S. MAXIMUS*. *Wood G. C.* 31. *f.* 3.—*W. t.* 3. *f.* 16.—*S. GIGAS*,

*D.* 61.—SOLECURTUS NUTTALLI. *Conrad in J. A. N. S. Phil.* 7. *fide Gould*. Linear-oval, sub-diaphanous, rounded, equally broad at both ends, flat, under a glossy olive green epidermis white, rounded at both ends; nearly smooth: inside white with a strong longitudinal rib extending from the hinge to the margin: hinge twice as near the posterior as the anterior, two remote and lamellar teeth in one valve, four in the other. 2..5.—*Sandwich Isles*.<sup>1</sup>

S. BIDENS\*. *Chem.*—S. FRAGILIS. *Mont.*—*D.* p. 65.—*Turt. B. t.* 8. *f.* 3.—*W. t.* 3. *f.* 11.—*Ch. f.* 1939. Linear-oval, nearly smooth, pellucid, brittle, white under a yellowish cuticle, a reddish brown longitudinal stripe extending half way to the margin, but becoming broader and fainter as it recedes from the hinge: margins sub-parallel, the ventral sub-incurved in the middle: two teeth in one valve one in the other.  $\frac{1}{2}$ ..1 $\frac{1}{2}$ .—*Nicobar Isles, &c.*

S. TENUIS. *W. S. t.* 1. *f.* 5. (*not of Grif. Cuv.*) Elongated oblong, thin, rounded at the ends, thrice as broad as long, ventral edge incurved in the middle, white under a dirty yellowish cuticle: hinge, in one valve with a single projecting falcate tooth, a small tooth with a denticle on each side in the other: inside uniform white, without a rib, but with an oblique anterior radiating callus. 1..3.

S. NOVACULINA. *Benson*. Elongated-oblong, obtuse at both extremities, thin, dull white under an ochraceous epidermis, nearly smooth, ventral and dorsal edges sub-parallel and scarcely at all arcuated: beaks slightly prominent, broad, situated at about  $\frac{1}{3}$ rd from the somewhat narrowed posterior extremity: inside glossy, often iridescent, teeth very small.  $\frac{2}{3}$ ..1 $\frac{1}{2}$ .—*Near Calcutta*.

S. CALIFORNIANUS—CULTELLUS C. *Conr. Jour. A. N. S. Phil.* 7. p. 233. *t.* 18. *f.* 3. Linear, oblong-oval, thinnish, convex, dorsal and ventral edges parallel, the latter incurved in the middle, equally rounded at the sides, under a straw-coloured cuticle with radiating wrinkles on the anterior slope, white tinged with yellowish brown, with direct brown lines in the middle. 3 $\frac{1}{2}$ .—*U. California. Allied to Dombey*.

S. SUBTERES.—CULTELLUS S. *Conr. Jour. A. N. S. Phil.* 7. p. 233. *t.* 17. *f.* 10. Linear-oval, inflated or sub-cylindrical; dorsal and ventral edges sub-parallel, slightly arcuated, beaks very obtuse, extremities equally rounded, under a yellowish brown finely wrinkled cuticle, pale purple obscurely rayed: two teeth in each valve, the anterior one of the right valve dilated.  $\frac{2}{3}$ ..2 $\frac{1}{2}$ .—*U. California.*—*Not impossibly the young of Dombey or Californianus.*

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<sup>1</sup> The S. MINIMUS of *Ch. f.* 31. (of which we have given a copy) —*D. p.* 66. —*W. t.* 3. *f.* 19.—is evidently the young of a species allied to this.

*S. ACUTIDENS.* *Sow. & Brnd. Z. J. 4.—Reeve t. 26. f. 2.—Beechey. Zool. t. 43. f. 2.—S. MICHAUDI. Cui in Mag. de Z. 1839. Mol. C. 2.* Linear. ventral and dorsal margins sub-parallel, the former sub-incurved in the middle, sides rounded; thin, white under a green epidermis: hinge at one third the distance from the posterior end, the teeth narrow, in one valve two small ones, a long and a very small one in the other.  $\frac{1}{4}..3$ .—*Sumatra, India.*

*S. ACUMINATUS.* *Nobis. in Z. P. 1842.* Elongated. breadth rather more than thrice the length, posteriorly rounded. anteriorly attenuated but rounded at the tip. dorsal and ventral edges both curved, the latter with a sub-medial incurvation: white under a greenish-grey epidermis: two narrow teeth in each valve. one much the smaller  $\frac{1}{4}..2\frac{1}{2}$ .—*India.*<sup>2</sup>

<sup>2</sup> The genus *GLAUCONOME* is considered as belonging to the *Solenaceæ* by Mr. Reeve in his system of Conchology. an opinion I am the more inclined to assent to, from knowing that Linnæus has already described one of its species under the name of *Solen Virens*. (1115.—*D. p. 70.*)

*GLAUCONOME. Gray.*

*Oblong-oval, thin, equivalve, inequilateral. margins closed, covered with a horny cuticle: three cardinal teeth in each valve, the anterior the larger, the middle of the right and the anterior of the left bifid, no lateral teeth; a posterior marginal oblong, and an anterior sub-quadrate muscular impression, the pallial with a large broad and deep oblong sinus: ligament external, oblong.*

*G. CHINENSIS. Gray. Spic. Z.—Sow. G.—Reeve. t. 31.* Nearly smooth, anteriorly attenuated, posteriorly rounded, cuticle thin and green.  $\frac{1}{2}..2\frac{1}{2}$ .—*China.*

Mr. Reeve places the genus *SOLENELLA* of Sowerby with the *Solenaceæ*, a position which at first, from the peculiar structure of its teeth, I felt disposed to cavil at, but whose correctness subsequent observation has confirmed.

*SOLENELLA. Sowerby.*

*Transversely-oval, sub-equilateral, equivalve, compressed, shining, with a thin olive cuticle: in each valve three or four continuous posterior lateral teeth, and an anterior sub-direct row of small sharp pointed ones; muscular scars rather distant, the pallial with a large sinus: ligament external and elongated.—S. NORRISII. Sow. Z. P. 1832.—Sow. G.—Reeve. t. 30.* Bluish-white under an olive-green cuticle with darker zones, smooth.  $\frac{2}{3}..1\frac{1}{2}$ .—*Valparaiso.*

The genus *Pholadomya* of Sowerby is adopted by Deshayes. Its characters are as follows:



## PANOPEA.

*Equivalve, transverse, gaping unequally at the sides; one conical primary tooth in each valve, and a compressed, not exerted, short, ascending callosity on one side; ligament external, affixed on the elongated side of the shell, to the callosities.*

P. ALDROVANDI.\* *Lam.* 1.—MYA GLYCIMERIS. *Lin. Gmel.* 3222.—*D. p.* 41.—*Ch. f.* 25.—*Don. t.* 142.—*Wood. G. C. t.* 25. *f.* 1.—*W. t.* 3. *f.* 41. Oblong subrhombic, very thick, pale fulvous, with strong concentric wrinkles, gaping and obliquely subtruncated at both extremities, ventrally incurved.  $4\frac{1}{2} \dots 8\frac{1}{2}$ .—*Mediterranean.*

P. ZELANICA. *Quoy. Ast. t.* 83. *f.* 7, 8, 9. Regularly oval-oblong, subequilateral, transversely and irregularly wrinkled, anterior end nearly closed, posterior with a very wide gape; umbones very small and but little prominent.—*N. Zealand.* *In form and size it approaches the Lutrariæ.*

P. AUSTRALIS. *Sow. G. f.* 2.—*Reeve. t.* 27. *f.* 2. Ovate-oblong, transverse, roughly wrinkled concentrically, rather broad at the anterior end; all but truncated obliquely at the shorter posterior extremity.

P. ARCTICA. *Gould Mas. p.* 37. *f.* 27.—GLYCIMERIS A. *Lam.*—Oblong, somewhat cylindrical, strong, anterior side twice as long as the rounded posterior and truncated; widely gaping at both ends, traversed by two radiating wavelike ridges which divide the surface into three portions.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Newfoundland.* *Not unlike Mya Truncata.*<sup>1</sup>

## GLYCIMERIS.

*Transverse, gaping widely at each extremity; hinge callous, destitute of teeth; ligament external.*

## PHOLADOMYA.

Thin, rather hyaline, transverse ventricose; posteriorly short and rounded, anteriorly slightly elongated and gaping, the dorsal edge also gaping a little: hinge with a small rather elongated triangular pit, and a marginal lamina in each valve, to the outer part of which is attached the rather short external ligament; muscular impressions two, which as well as the palleal scar are indistinct.

P. CANDIDA. *Sow. G.*—*Reeve. t.* 32. Oblong, white, the central portion covered with decussated divaricating striæ, which proceed from the umbo downwards.  $2\frac{1}{2} \dots 1\frac{1}{2}$ .

<sup>1</sup> A most elegant species with radiating ribs, which I have lately seen, has, I believe, been described by Eichwold (as a Glycimeris), in his account of the shells of the Caspian Sea. I have not succeeded in procuring the work, and consequently cannot give a name to the species.

GLYCIMERIS SILIQUA. *Lam.* 1.—*Bl.* t. 80. f. 3.—*Reeve.* t. 28.—*Sow.* G.—MYA SILIQUA. *D.* p. 49.—*Ch.* f. 1934. MYA PICEA. *W.* t. 2. f. 10. Thick, strong, oblong, covered with a black friable epidermis and generally decorticated about the beaks ; within, bluish white. 1..1½.—*Newfoundland.* The valves are often internally filled with a deposition of extraneous shelly matter.<sup>2</sup>

G. EDENTULA. *Eich. Zool. Spec.*—MYA E. *Pallas Itin.* no. 93.—*D.* p. 48.—*Wood, G. C.* p. 96. Equivalve, oval, with a large hiatus, white, somewhat grooved transversely, and marked with about 33 striae on each valve, which are more distant at the narrower than at the broader end ; hinge edentulous, with a thick reflected lip. . 1 long.—*Caspian Sea.*<sup>3</sup>

TRIBE MYARIA.

*Shells having a broad spoon-like tooth in each valve, or in one only ; gaping at both extremities, or only at one end : ligament internal.*

MYA.

*Transverse, gaping at both ends, with one large dilated projecting rounded and nearly vertical cardinal tooth in the left valve, and with a hollow in the opposite valve : ligament internal, short, thick and inserted in the hollow of the primary tooth, and in the pit of the other valve.*

M. TRUNCATA.\* *Lin.* 1111.—*D.* p. 42.—*Lam.* 1.—*Ch.* f. 1, 2.—*Don.* t. 92.—*Pen.* 4. p. 78. t. 41. f. 14.—*Turt. B.* p. 31.—*Mont.* p. 32.—*List.* t. 428.—*W.* t. 2. f. 1. Ovate, ventricose, coarse, truncated at the anterior end, posteriorly rounded, ventral margin nearly straight ; white, covered by a brownish-yellow tough wrinkled epidermis, concentrically wrinkled ; tooth round, obtuse, entire, and projecting forwards. 2.. 2½.—*N. Europe.*<sup>4</sup>

M. ARENARIA.\* *Lin.* 1112.—*Reeve.* t. 33.—*Sow.* G.—*Bl.* t. 77. f. 1.—*D.* p. 42.—*Lam.* 2.—*Ch.* f. 3, 4.—*Mawe.* t. 4. f. 1.—*W.* t. 2. f. 2.—*Don.* t. 85.—M. ACUTA and MERCENARIA, *Say.* Ovate, thick, rounded at both extremities, but slightly attenuated and produced at the anterior end, moderately ventricose, dull whitish or pale chesnut under a wrinkled brown or chesnut epidermis ; inside glossy white with the syphonal scar larger than in the last ; hinge

<sup>2</sup> G. ARCTICA, *Lam.* 2, is a *Panopea*.

<sup>3</sup> See too the *Læviuscula*, *Plicata*, and *Vitrea* of the same work.

<sup>4</sup> M. Ovalis\* *Turt. Biv.* is a young variety of this species.

composed of a rounded tooth which projects forward, and a smaller acute one by the side of it. 3.. 5½.—*N. Europe*.<sup>1</sup>

M. CANCELLATA. *Conr. Jour. A. N. S. Phil.* 7. p. 236. t. 18. f. 2. Subelliptical, ventricose, with numerous prominent slightly undulated concentric striæ; a slight furrow extends from beak to base, posterior side with radiating striæ, umbo prominent, anterior side short: tooth very erect, dilated, biemarginate. ¾.. 2.—*U. California*.

M. SEMISTRIATA. *Nobis in Zool. Pr.* 1843. Ovate-oblong, sub-equilateral, tumid, posteriorly rounded, anteriorly attenuated ventrally and subtruncated at the extremity; white, thin, pellucid; posterior area smooth, the central with crowded fine radiating striæ which anteriorly become fine ribs and terminate at the anterior slope which is roughened by transverse sublamellar wrinkles: tooth resembling that of *Arenaria* but more oblique. ¾.. 1.—*I have seen but one valve*.

#### ANATINA.

*Transverse, subequivalve, gaping at one or both ends. Primary tooth naked, dilated, spoon-shaped, somewhat projecting internally and receiving the ligament in each valve. In many species, an affixed lamina or false rib runs obliquely under the cardinal teeth.*

A. LANTERNA. *Lam.* 1.—*Born.* p. 23. vignette 6.—SOLEN *Spengleri*, *W. t.* 3. f. 30. Ovate, rounded at each extremity, and not beaked anteriorly; very thin, fragile, swollen, pellucid and white. 1.. 2.—*Indian Ocean*.

A. TRUNCATA. *Lam* 2. (partly)—*Del. t.* 3. f. 2. Ovate, thin, white, transversely striated, anteriorly subtruncated, roughened by minute raised dots: subnacreous within.—*China*.?

A. SUBROSTRATA. *Lam.* 3.—SOLEN ANATINUS. *Lin. Gmel. no.* 8.—*D. p.* 65.—*Ch. f.* 46, 48.—*E. t.* 228. f. 3.—*W. t.* 3. f. 13. Ovate, membranaceous, pellucid, white and very thin gibbous, a very short minute radiating fissure at the beaks: anterior end gaping the more widely and subrostrated. 1½.. 2.—*Indian Ocean and New Holland*.

A. GLOBULOSA. *Lam.* 5.—MYA ANATINA, *Gmel.* 3221.—*D. p.* 44.—*Ch. f.* 13 to 16.—*W. t.* 2. f. 6. Subglobose, the anterior side very short and gaping, hiatus with a marginated border; thin but firm, decussated, white and pellucid. 1.—*Africa*.

A. TRAPEZOIDES. *Lam* 6.—*E. t.* 230. f. 6.—OSTEODESMA T. *Bl. t.* 76. f. 8. Rounded-trapeziform, one side very short and truncated, the other rounded; slightly inequivalve, convex, thin,

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<sup>1</sup> *Mya Erodona*, *Lam.* 3, is a *Corbula*. *Mya Solemyalis* belongs to *OSTEODOMA*.

pellucid, smooth; pearly within, and the hinge with an oblique, shallow, spoon-shaped tooth.  $\frac{3}{2}$ ..1.—*Brazil*.<sup>2</sup>

A. RUGOSA. Lam. 7. Shape square with the angles rounded off, convex, thin, pellucid, obliquely wrinkled.—*St. Domingo*. *Rather smaller than the last, and the teeth less isolated.*

A. IMPERFECTA. Lam. 8. Ovate, scarcely equivalve, the ante-

<sup>2</sup> Deshayes makes this species the type of PERIPLOMA Schumacher, which is thus characterised. *Oval, very inequivalve and extremely inequilateral, one side short, subtruncated and but slightly gaping: hinge in each valve with a straight and oblique spoon-like tooth, forming with the upper margin a deep slope, in which is locked a small triangular shelly substance, which adheres by a portion of the ligament: muscular impression of the truncated end very straight and marginal, of the other extremity very small and rounded.*

P. LENTICULARIS. Sow. Z. P. 1834. Elliptical, lenticular, æquivalve, white, dull, thin: epidermis very thin: posterior dorsal edge sinuated and forming an angle with the posterior margin.  $\frac{11}{10}$ .. $\frac{7}{10}$ .—*Isle of Muerta*.

P. ARGENTARIA. Conr. Journ. A. N. S. 7. p. 238. t. 18. f. 8. Elliptical, anterior side short, subangulated, slightly reflected, extremely nearly direct, truncated; beaks rather prominent: apophysis produced, very oblique; nacre silvery. 2.—*U. California*.

P. PLANUSCULA. Sow. Z. P. 1834. Oblong, flattish, inæquivalve, whitish, dull, thinnish: the posterior side short, somewhat wrinkled, subtruncated and somewhat sloping at its edge: dorsal edge straightish: epidermis thin and palish.  $1\frac{2}{3}$ .. $2\frac{2}{3}$ .—*W. Columbia*.

A. Myalia, Lam. 9, belongs to Leach's genus

THRACIA.

*Oval oblong, subequilateral, inequivalve, slightly gaping at each extremity. Hinge consisting of a more or less prominent horizontal spoon-shaped tooth, which receives the ligament. Palleal scar deeply impressed.*

T. PUBESCENS.\* Blainv.—MYA DECLIVIS. part. D. p. 43.—W. t. 2. f. 4.—Wood. G. C. t. 18. f. 2.—ANATINA P. Turt. B. (young) t. 4. f. 3.—A. MYALIS. Lam. 9.—Kiener *Thracia*, t. 2. f. 2. Ovate oblong, subventricose, inequivalve, subequilateral, ashy white, posteriorly rounded, anteriorly subtruncated and angulated: hinge furnished with a spoon-shaped process in each valve, whose cavity is divided by a single tooth or ridge.  $2\frac{1}{2}$ .. $3\frac{1}{2}$ .—*W. Europe*.

T. Plicata. Desh. E. vol. 3. p. 1039.—Kiener *Thracia*, p. 6. t. 2. f. 3. (bad)—Reeve. t. 35. f. 2. Ovate-oblong, transverse,

rior end shortened, thin, smooth, white, transparent, with an anterior rib : hinge with a narrow tooth which is united to the margin.  $1\frac{2}{3}$ .—*New Holland*.<sup>1</sup>

æquilateral, inequivalve, depressed, transversely plaited, smooth, white, thin, polished, posteriorly rounded, anteriorly obliquely truncated, somewhat compressed.  $1\frac{1}{2}$ .

T. PHASEOLINA.\* *Kiener*, 2. f. 4.—AMPHIDESMA P. *Lam.* 11. —MYA DECLIVIS. *Mont.* t. 1. f. 2.—*Wood. G. C.* t. 18. f. 3. —ANATINA D. *Turt. B.* p. 47. Ovate-oblong, transverse, subdepressed, subæquilateral, inequivalve, white, subdiaphanous, finely striated transversely, anteriorly shorter, angulated and truncated.  $1\frac{1}{2}$ .—*Mediterranean, &c.*

T. SIMILIS. *Couthouy in Boston Journ.* 1839. p. 150. t. 4. f. 3. Ovate-oblong, rough with minute granules, whitish, or ash colour, semitransparent, inequilateral, anteriorly much longer attenuated, truncated and subcompressed ; ventral margin little rounded, not at all sinuated ; within white, not glossy, hinge with a subtriangular hollow ; external ligament small and slightly prominent : *beaks not prominent*.  $1\frac{1}{10}$ .—*Brazil*.

T. CONRADI. *Couthouy, in Boston Jour. of N. H.* 1839. t. 4. f. 2.—T. DECLIVIS. *Conr. Am. Conch.* t. 9. f. 2.—*Gould. Mas.* p. 50. Transversely ovate, ashy white, not shagreened, ventricose, subæquilateral, fragile, little gaping, margin much sinuated, anteriorly longer, subtruncated, posteriorly rounded, the beaks prominent, the anterior slope obtusely keeled.  $2\frac{1}{10}$ .—*New England*.

T. CONVEXA.\* *Couthouy in Bost. J. of N. H.* 1839.—MYA C. *Wood. G. t.* 18. f. 1.—*W. t.* 2. f. 3.—ANATINA C. *Turt. B. t.* 4. f. 1, 2. Obovate, posteriorly broad and rounded, anteriorly attenuated, obliquely truncated, longer, with an obtuse ridge from the protuberant umbones, to the ventral margin, which as well as the anterior is sinuated ; very convex, thin, white under an ochreous epidermis, with numerous striæ of growth : inside yellowish.  $1\frac{1}{2}$ ..2.—*England*.

T. CORBULOIDES. *Desh. in Lam.* 7. p. 83.—*Kiener Thracia.* t. 2. f. 3.—*Bl. t.* 76. f. 7.—*Reeve. t.* 35. f. 3. Transversely ovate-oblong, inequilateral, greyish-white, minutely shagreened, very inequivalve, with irregular concentric striæ, anterior side the longer and attenuated, posteriorly obtusely rounded ; beaks large, ventral margin with a prominent outward curve in the centre : within milk-white, glossy.  $1\frac{1}{2}$ .. $2\frac{1}{2}$ .—*Mediterranean*.

T. CURTA. *Conr. Jour. A. N. S. Phil.* 7. p. 248. t. 19. f. 8. Suboval, inequilateral, posteriorly obtusely rounded and shorter, anterior margin direct, subrectilinear, obtusely rectangular above and below ; umbonal slope angulated.  $\frac{3}{4}$ .—*California*.

<sup>1</sup> A *Rupicola*, *Lam.* 10, and A. *Longirostris*, *Lam.* 4, are *Corbulæ*.

A. NICOBARICA. Gray.—MYA N. Gmel. 3221.—D. p. 44.—Ch. f. 17, 8.—Wood. G. C. p. 97.—W. t. 2. f. 11.—Ovate oblong, white, equivalve, with decussated striæ; convex broad and rounded at one end, at the other attenuated, subtruncated, flat and gaping: hinge subcentral, the spoon-shaped tooth broad and perpendicular.  $1\frac{1}{2}..1\frac{1}{2}$ .—Nicobar Isles.<sup>2</sup>

A. GLOBOSA. Gray.—MYA G. Wood. G. C. p. 95. t. 24. f. 4, 5, 6.—D. p. 44.—W. t. 2. f. 5. Suborbicular, with transverse striæ decussated by longitudinal ones on the anterior side only: hiatus terminating in a sharp reflected margin.—diam.  $\frac{3}{4}$ .

A. COSTATA. Sow. Z. P. 1834. Oblong, white, anteriorly beaked, posteriorly rounded; with 8 radiating ribs, becoming smaller towards the posterior end. <sup>2</sup><sub>10</sub>.—America. In form like *Longirostris*.

A. ELLIPTICA. King in Z. J. 5.—Grif. Cuv. Mol. t. 22. f. 3. Elliptic, rather thin, transversely striated, posteriorly subtruncated: the epidermis brown and thin.  $1\frac{1}{2}..2\frac{1}{2}$ .—New S. Shetland.<sup>3</sup>

A. PRÆTENIUS\* Turt. B. p. 48. t. 4. f. 4.—MYA P. Pen. 4. p. 160. t. 50. f. 1.—Don. 5. t. 176.—Wood. G. C. p. 94. t. 24. f. 7, 8, 9.—Dor. Cat. t. 4. f. 7.—W. t. 2. f. 5. Oval-oblong, subequilateral, depressed, white, rounded at both ends, anteriorly attenuated; dorsal edges sloping, the ventral sub-anteriorly incurved: teeth oval and horizontally projecting inwards.  $1..1\frac{1}{2}$ .—England.

A. DISTORTA.\* Turt. Biv. p. 48. t. 4. f. 5.—MYA D. Mont. p. 42. t. 1. f. 1.—W. t. 2. f. 15.—D. p. 45. Convex, very variable in shape, being orbicular oblong or kidney-shaped, with the margin variously indented not rarely entire; teeth rounded and projecting inwards.  $\frac{1}{2}$ .—England.

A. PAPYRACEA. Say. Jour. A. N. S. Phil. 2. p. 314.—Sil. J. 28. p. 347. f. 1.—Gould. Mas. p. 48. f. 28. Turgid, very thin, ovate, one valve very convex and its ventral edge projecting slightly beyond the other; beaks not prominent, placed near one

<sup>2</sup> A. MEMBRANACEA. Gray.—MYA M. Gmel. 3222.—D. p. 48.—Olaassen. Isl. res. 2. p. 2. t. 11. f. 10.—W. t. 2. f. 14. Oval, membranaceous, white, produced on one side so as to form a beak; margin reflected; hinge toothless. 1.—Iceland.

We have copied the original figure of this species, but are unable to identify the shell.

<sup>3</sup> Closely allied if not identical is the A. PRISMATICA. Sow. Z. P. 1834. Oval, subtrapeziform, thickish, opaque, with the nacre prismatic; posterior side truncated, the gape very large: an internal subumbonal lamella in each valve, running downwards from the tubercle which supports the ligament, with a branch of the horny ligament almost parallel to it, posteriorly inclined.  $1\frac{1}{2}..2\frac{1}{10}$ .—New S. Shetland.

end; white, nearly smooth; shorter side a little gaping and with a longitudinal wave; tooth long, narrow, very oblique.  $\frac{2}{3}$ .. $\frac{1}{3}$ .—*U. States*. *Ossiculum* not unlike two crescents joined at the extremities.

A. LEANA. *Conr. Jour. A. N. S. Phil.* 6. t. 11. f. 11.—*COCHLODESMA* L. *Gould. Mas.* f. 29, 30. Inequivalve, elliptical, subcompressed, very thin and fragile, white with a yellowish slightly polished epidermis, posteriorly rather shorter and slightly more obtuse, with a linear gape; margin waved, beaks very small.  $1\frac{1}{4}$ .—*U. States*.

A. ELONGATA. *Stutch. Z. J.* 5. t. sup. 43. f. 9, 10. Transversely elongated, inequivalve, inequilateral, pellucid, sinus of the pallear scar elongated towards the anterior side.  $\frac{1}{10}$ .. $\frac{1}{4}$ .

A. BREVIS. *Stutch. Z. J.* 5. p. 99. t. sup. 43. f. 1, 2.—*PANDORA* B. *Sow.* Plano-convex, subtriangular, transversely striated; one valve convex, with two depressed transversely lamellated ribs on the posterior extremity, the other slightly concave, the dorsal edge inflected and inserted into a sulcus in the opposite valve; hinge with an internal triangular cartilage, and a supervening shelly piece; umbo reflected posteriorly.  $\frac{5}{8}$ .. $\frac{5}{8}$ .<sup>1</sup>

<sup>1</sup> Can these four last shells be justly considered *Anatinae*?

Deshayes in his new edition of Lamarck introduces the genus *OSTEODOMA*, which he thus characterises: Oblong, transverse, triangular, thin, inequivalve, slightly gaping at its extremities; hinge linear, having on each valve a very narrow apophysis, firmly adherent along the dorsal edge of the valves, and a quadrangular shelly substance kept between them by the ligament, to which its entire upper surface adheres: muscular impressions small, the posterior one elongated, the anterior rounded: pallear scar excavated posteriorly.

O. CORBULOIDES.\* *Desh.*—*MYA NORWEGICA*. *Gmel.* 3222. *D. p.* 48.—*Ch. f.* 1647, 8.—*W. t.* 2. f. 13.—*Tur. Biv. t.* 3. f. 6, 7. Ovate-oblong, rounded at one end, waved and truncated at the other; thin, inequivalve, semitransparent, white under a brown epidermis, finely striated concentrically, beaks usually decorticated.  $\frac{1}{2}$ ..1.—*N. Europe*.

O. SOLEMYALIS. *Desh.*—*MYA S.* *Lam.* 4. Transversely oblong, white, obtuse at the extremities, slightly gaping anteriorly, the posterior side very short, the anterior more produced and obliquely rayed. Wants but the hinge to make it a *Solemya*.—*New Holland*.

O. HYALINA. *Couthouy.*—*Gould Mas.* f. 10.—*MYA H.* *Conr. Jour. A. N. S. Phil.* 6. t. 11. f. 12.—*LYONSIA H.* *Conrad. Am. C. t.* 11. f. 2. Oblong, extremely thin, fragile, pellucid, posteriorly short and rounded, anteriorly produced, attenuated, slightly reflected and truncated at the extremity, epidermis pale with radiating rugose

A. OVALIS. *Stutch. Z. J. 5. t. sup. 43. f. 7, 8.* Inequivalve, thin, pellucid, posteriorly truncated : more convex valve sulcated at the upper edge, and receiving the inflected edge of the other valve which is slightly convex ; hinge with an oblique elongated internal cartilage.  $\frac{3}{8}$ <sup>4</sup>.

A. PANDORIFORMIS. *Stutch. Z. J. 5. t. sup. 43. f. 3, 4.* Plano-convex, subovate, with transverse distant striæ ; convex valve posteriorly carinated and truncated, the other valve slightly concave ; hinge with a flat testaceous piece attached by the cartilage to the cardinal pits ; an indistinct depressed line obliquely crossing the internal disc of each valve, from the umbones to the ventral margin.  $\frac{1}{2}$ <sup>2</sup>.

A. CRASSA. *Stutch. Z. J. 5. p. 100. t. sup. 43. f. 5, 6.* Thick, subtriangular, inequivalve, transversely ribbed : one valve slightly convex, posterior side of both valves carinated, with a smooth cordate posterior depression.  $\frac{5}{12}$ <sup>6</sup>.

striæ towards the ventral edge and anterior end, where the epidermis is wrinkled ; beaks prominent, inside polished, tooth broad, erect, little elevated, with its anterior edge fitting into the slight groove of a projecting plate in the opposite valve.  $\frac{1}{4}$ .. $\frac{3}{5}$ .—*U. States.*

O. ELONGATA. *Gray in Brit. Mus.*—A TRUNCATA. *Lam. in part.* Nearly thrice as broad as long, very inequivalve, beaks situated at  $\frac{3}{4}$ ths the distance from the rounded posterior extremity, ventral and dorsal edges but little curved, subparallel in the centre ; anteriorly subrostrated but truncated at the extremity, the gape very large ; very fragile, pellucid, the epidermis with fine radiating lines not visible on the disc.  $\frac{1}{4}$ .. $\frac{1}{2}$ .—*Mediterranean*

O. BREVIFRONS.—LYONSIA B. *Sow. Z. P. 1834.* Oblong, palish, the epidermis obscure and horny : posteriorly short and acuminate, anteriorly longer and attenuated ; dorsal edge anteriorly elongated and straightish, posteriorly short and sloping, ventral edge with a large elongated sloping gape at the posterior extremity.  $\frac{2}{5}$ <sup>4</sup>.—*W. Columbia.*

O. PICTA.—LYONSIA P. *Sow. Z. P. 1834.* Obovate, anteriorly rounded, thin, anteriorly broader ; the epidermis brown, painted with wavy black lines : dorsal edge sloping posteriorly, anteriorly straightish ; ventral edge with a small posterior gape, anteriorly rounded.  $\frac{1}{2}$ <sup>3</sup> $\frac{1}{8}$ <sup>7</sup>.—*W. Columbia.*

O. CUNEATA.—ANATINA C. *Gray. Spic. Z. t. 3. f. 14.* Solid, irregular, subequivalve, oblong-wedged-shaped, anteriorly produced, posteriorly very short, subtruncated and rounded ; with irregular concentric wrinkles, pearly within ; periostraca hard, greenish, extending beyond the margin ; hinge almost toothless, with a large moveable oblong tooth-like appendage.  $\frac{3}{4}$ .. $\frac{1}{2}$ .—*Peru.*



## SECTION TENUIPEDES.

*The mantle barely united before; foot small, and compressed; shell having but a moderate gape.*

## TRIBE MACTRACEA.

*Equivalve shells, frequently gaping at the lateral extremities; with an internal ligament, or partly external, and the animal having a small compressed foot.*

## LUTRARIA.

*Inequilateral, transversely oblong, or rounded, gaping at the extremities; hinge with one tooth, which is somewhat complicated, or two teeth, of which one is simple, with an adjoining deltoid hollow, which is oblique, and prominent within; no lateral teeth; ligament internal, attached to the cardinal pits.*

\* *Transversely oblong.*

L. SOLENOIDES. *Lam.* 1.—*Bl.* t. 77. f. 3.—*Sow. G.* f. 1.—MYA OBLONGA. *Gm.* 3221.—MACTRA HYANS. *D.* p. 146.—*Mont.* p. 101.—*Don.* t. 140.—*Ch. f.* 12.—*W. t.* 16. f. 37.—L. OBLONGA. *Turt. B.* p. 64. t. 5. f. 6. Oblong, the posterior side short and rounded, the anterior produced and obtuse, margins nearly parallel, the dorsal slightly incurved; yellowish-white or rufous under a thick epidermis, with irregular rugged transverse striæ; hinge with a grooved, flattish, tooth, locking between two others in the opposite valve. 2½.—*Europe.*

L. ELLIPTICA. *Lam.* 2.—*Turt. B.* p. 65.—MACTRA LUTRARIA. *Lin. Gmel.* 3259.—*W. t.* 6. f. 36.—*Mont.* p. 99.—*D.* p. 145.—*List. t.* 415. f. 259.—*Ch. f.* 240, 1.—*Don.* 2. t. 58. Oblong, nearly equivalve, marked only with the lines of growth and remote obsolete ridges, anterior side the longer, rounded and slightly gaping at both ends, yellowish white under a thin close cuticle. 2..3½.—*Europe.*

L. RUGOSA. *Lam.* 3.—MACTRA RUGOSA. *Gmel.* 3261.—*D.* p. 145.—*Ch. f.* 236. 7.—*E. t.* 254. f. 2.—*W. t.* 6. f. 33. Transversely ovate, yellowish-white, marked with strong longitudinal and obsolete transverse striæ, except at the extremities which are smooth and somewhat glabrous.—*Europe.*

L. EGYPTIACA. *Gray.*—MACT. E. *D.* p. 145.—*Ch. f.* 1955, 6.—*W. t.* 6. f. 34. Oblong-oval, obtuse at the extremities, ventral margin little curved; white under a yellowish epidermis, longitudinally striated. 1..¾.—*Red Sea.*

L. ELONGATA.—*Gray. Mag. Nat.* 1837. Elongated, ovate-

lanceolate, solid, white, tapering anteriorly oblique: slightly gaping anteriorly; a distinct lozenge, edged with a raised line; anterior lateral teeth wanting in the adults.—*Prince of Wales' Island*.

L. ENSIS. *Quoy. Ast. t. 83. f. 5, 6.* Elongated-ovate, narrow, transverse inequilateral, arcuated, yellowish-grey, with irregular transverse grooves; anterior side rounded and very short. 3.—*N. Zealand*.

\* \* Orbicular or sub-triangular.

L. COMPRESSA. *Lam. 4.*—L. PIPERATA. *Lam. 5.*—*Bl. t. 77. f. 2.*—MACTRA PIPERATA. *Gmel. 3261.*—*D. p. 142.*—*Ch. f. 21.*—*E. t. 257. f. 4.*—M. LISTERI. *W. t. 6. f. 25.*—TELLINA PLANA. *Don. t. 64. f. 1.*—LIGULA C. *Mont. p. 96.*—LISTERA C. *Turt. B. p. 51. t. 5. f. 1.* Thin, compressed, triangularly rounded, yellowish-white, finely but irregularly striated transversely, semipellucid; beaks very small and central; a distinct lozenge, edged with a raised line; a single tooth in one valve looking into a bifid one in the opposite, no lateral teeth.  $1\frac{1}{2} \dots 1\frac{1}{2}$ .—*Europe*.

L. TELLINOIDES. *Lam. 6.*—*Deles. t. 3. f. 5.* Ovate, sub-triangular, thin, pellucid, white, with fine, unequal, transverse, striæ; posterior side short, obliquely truncated, and somewhat plaited. 1.—*Guinea*?<sup>1</sup>

L. CANDIDA. *Lam. 7.* Ovate, thin, pellucid, white, with unequal transverse striæ: posterior side the longer.

L. PAPYRACEA. *Lam. 8.*—*Sow. G.*—*Reeve, t. 41. f. 2.*—MACTRA RECURVA. *W. S. f. 2.*—*An. L. LINEATA. Say. Am. Conch. t. 9.* Roundish-ovate; thin, pellucid, transversely striated, with very fine longitudinal striæ in an isolated place near the anterior side, which is widely gaping and marked with an elevated longitudinal line on each valve.—*Indian Ocean*.

L. PLICATELLA. *Lam. 9.*—*An. Mactra Papyracea Gmel. 3257 ?*—*D. p. 133 ?*—*Ch. f. 231 ?* Ovate-rounded, thin, pellucid, white, with numerous fine transverse plaits; anterior side short and sub-angulated.—*N. America*.<sup>2</sup>

<sup>1</sup> This species is in all probability the *Tellina Angulata* of Linnaeus, whose own specimens are undoubtedly *Lutrarise*. I have given copies of Delessert's figure of *Tellinoides* and Wood's *Angulata*.

T. ANGULATA. *Lin.*—*Ch. f. 75.*—*D. p. 75.*—*Wood, G. C. p. 146. t. 43. f. 1.*—*W. t. 3. f. 5.* Triangular-ovate, anteriorly much shorter, bent and angulated; white, sub-inflated, nearly smooth, ventral edge but little curved, ligament very small; no lateral teeth.

<sup>2</sup> It is not absolutely impossible, that this at present rather doubtful species, may prove to be identical with the

L. CANALICULATA. *Say Jour. A. N. S. Phil. 2. p. 311.*—MACTRA CAMPECHENSIS. *Gray in W. S. t. 1. f. 3.*—*An.*

L. CRASSIPLICA. *Lam.* 10.—*An. variety.* *E. t.* 255. *f.* 2? Rounded-ovate, thin, pellucid, white, convex, with tolerably large and regular transverse plaits; posterior side very short.  $1\frac{1}{2}$ .—*Indian Ocean?*

L. COMPLANATA. *Lam.* 11.—MACTRA C. *Gmel.* 3261.—*W. t.* 6. *f.* 35.—M. PLANATA. *D.* p. 145.—*E. t.* 258. *f.* 4.—*Ch. f.* 238. Ovate-oblong, thin, finely striated and ridged transversely, compressed, hinge margin nearly straight; anterior lateral teeth very distinct and simple in each valve.  $1\frac{1}{4}$ .—*Indian Ocean.*

L. COTTARDI. *Payr. p.* 28. *t.* 1. *f.* 1, 2.—*Phil. p.* 10. Triangularly oval, compressed, pellucid, shining, sub-equilateral, posterior side sub-angulated, anterior rounded; white with fine transverse striæ, umbones acute and very small; ligamental pit oblique and very small; teeth obsolete.—*Mediterranean.*

L. VITREA. *Gray.*—MACTRA V. *D.* p. 133.—*Ch. f.* 1959, 0.—*W. t.* 6. *f.* 4. Ovate somewhat heart-shaped, very brittle, white, diaphanous, transversely plaited; anterior depression lanceolate, posterior ovate oblong; hinge much nearer the posterior end.  $1.1\frac{1}{2}$ .—*Coromandel and Ceylon.*

L. SQUAMOSA. *Gray.*—SOLENS. *Mont. p.* 565.—*D.* p. 70.—LEPTON S. *Turt. Biv. p.* 62. *t.* 6. *f.* 1, 2, 3. Flat, nearly orbicular, equivalve, inequilateral, pellucid, thin, white, obscurely wrinkled, concentrically punctured in a scale-like manner, beak small and pointed.  $\frac{1}{10} \dots \frac{1}{10}$ .—*England, rare.*<sup>1</sup>

### MACTRA.

*Transverse, inequilateral, subtrigonal, sides slightly gaping: beaks prominent: one primary compressed V-shaped tooth in each valve and an adjacent heart-shaped cavity; two lateral compressed teeth, situated near the hinge and inserted; ligament internal and inserted in the pit of the hinge.*

M. SOLIDISSIMA. *Chem. f.* 1656.—*D.* p. 140.—*Gould. Mas.*

*List. t.* 308. *f.* 141. Transversely oval-orbicular, very thin, white, inflated, equally concentrically and regularly grooved, with very faint parallel lines within the grooves, posteriorly short, sub-cuneiform, compressed; a marginal, longitudinal, irregular, sub-impressed line, between which and the edge the grooves become mere wrinkles; posterior dorsal edge straightish, the gape considerable; anteriorly regularly curved, the slope convex.  $2.2\frac{1}{2}$ .—*U. States.*

<sup>1</sup> Add C. CYPRINUS. *Gray. W. S. t.* 1. *f.* 1. See too L. LINEATA. *Say. Am. C. t.* 9.—L. (CRYPTODON) NUTTALLII. *Conrad. Jour. A. N. S. Phil.* 7. *t.* 18. *f.* 1

—*W. t. 6. f. 22.*—*M. GIGANTEA. Lam. 1.—E. t. 259. f. 1.* Solid, oval, subtriangular, nearly smooth; under a thin whitish or yellowish epidermis, pale fulvous, opaque, the ventral edge little arcuated, slopes smooth; hinge nearly but not quite central, the lateral teeth cross ribbed and elongated. 4.—*New York.*

*M. SPENGLERI. Lam. 2.—Gmel. 3256.—D. p. 132.—Ch. f. 199, 0, 1.—E. t. 252. f. 3.—Reeve. t. 42. f. 1.—Sow. G. f. 1.—W. t. 6. f. 1.* Triangular, smooth, both slopes flat, the anterior chiefly so, subdiaphanous, pale brownish; beaks distant, separated by a transverse crescent-shaped gap, which contains the ligament. 2..3.—*Cape of Good Hope.*

*M. STRIATELLA. Lam. 3.—E. t. 255. f. 2.* Large, pellucid, convex, white, anterior slope obliquely striated, bounded by an obtuse angle; beaks substriated; lateral teeth short and smooth.—*India. Larger but bearing some resemblance to the next.*

*M. STRIATULA. Lin. 1125.—D. p. 133.—Kn. 6. t. 34. f. 1.—M. CARINATA. Lam. 4.—E. t. 251. f. 1.—M. ALATA. W. S. f. 7.* Triangular, pellucid, white, convex; beaks smooth; hinge rather nearer the posterior than the anterior side which is bounded by an elevated plate with raised angles; anterior lateral tooth small and close, the posterior elongated.—*E. Indies?*

*M. GLAUCA.\* Gmel. 3260.—D. p. 144.—W. t. 6. f. 30.—Ch. f. 232.—M. HELVACEA. Lam. 5.—NEAPOLITANA. Poli. t. 18. f. 1, 2, 3.* Triangularly oval, dirty white rayed with fulvous becoming by age of an obscurely rayed red colour, rather depressed, striated transversely; beaks not quite central, smooth, and recurved, with a narrow gape beneath them.  $2\frac{1}{2}$ .. $3\frac{1}{2}$ .—*Spain and Italy.*

*M. STULTORUM. Lin. 1126.—D. p. 138.—Lam. 7.—Ch. f. 224, 5.—Mont. p. 94.—Turt. B. p. 72.—E. t. 256. f. 3.—Don. t. 106.—W. t. 6. f. 18.—TELLINA RADIATA. Pen. 4. p. 87. t. 49. f. 30.* Ovate triangular, thin, slightly depressed from the beaks at each extremity, subdiaphanous, nearly smooth, pale fulvous with obsolete white rays; beaks nearly central, and, as well as the interior, purplish red.  $1\frac{1}{2}$ .. $1\frac{3}{4}$ .—*Europe, the Atlantic.*<sup>2</sup>

*M. GRANDIS. Lam. 6.—Gmel. no. 12.—D. p. 139.—E. t. 253. f. 1.—Ch. f. 228.—W. t. 6. f. 19.* Triangular, anteriorly the more produced and subrostrated, smooth, fawn colour with paler rays; beaks tumid and violet-brown.  $2\frac{1}{2}$ .. $3\frac{1}{4}$ .—*New Jersey?*

*M. MACULOSA. Lam. 8.—M. ORNATA? Gray in Mag. N. H. 1837.* Triangularly oval, livid rufous, speckled with white, and marked with paler rays, smooth, subinequilateral; beaks and sides

<sup>2</sup> The *M. Cinerea\** of Montagu, Pennant and Turton differs in being proportionately broader, of a pale drab with sometimes one or two obsolete white rays and never lilac internally.

purplish : within, with three purple spots on the dorsal edge.  $1\frac{1}{2}$ .—*China?*

M. NITIDA. *Schroeter*, vol. 3. t. 8. f. 2.—*D.* p. 136.—*W.* t. 6. f. 13.—M. STRAMINEA. *Lam.* 9. Triangularly ovate, smooth, shining, diaphanous, white scarcely if at all rayed; beaks obsoletely rufous: ligament external, in an oblique triangular groove.  $1\frac{1}{2}$ .—*Cape of Good Hope.*

M. GLABRATA. *Lin.* 1125.—*D.* p. 136.—*W.* t. 6. f. 12.—M. AUSTRALIS. *Lam.* 10.—*Ch.* f. 216, 7. Triangular, thickish, diaphanous, glabrous, finely striated transversely, tawny white: umbones very smooth; interior with two or three purple stains.  $2\frac{1}{2}$ ..3.—*New Holland.*

M. VIOLACEA. *Gmel.* no. 18.—*D.* p. 135.—*Lam.* 11.—*Ch.* f. 213, 4.—*E.* t. 254. f. 1.—*W.* t. 6. f. 9. Triangularly ovate, sub-equilateral, thin, diaphanous, nearly smooth, violet within and without, but darker at the beaks and paler on the depressions of which the anterior is lanceolate, the posterior oblong, anterior lateral tooth short and approximate.  $2\frac{1}{2}$ ..3.—*Tranquebar.*

M. FASCIATA. *Lam.* 12. *Gualt.* 71. B. (tolerable) Triangular, ventricose, thin, smooth, subdiaphanous, white with distant violet zones; anterior slope striated and very pale; violet within; variety; with pale fulvous rays.—*Atlantic?*

M. TURGIDA. *Gmel.* 3260.—*D.* p. 134.—*Lam.* 13.—*Ch.* f. 210, 212.—*E.* t. 255. f. 3.—*W.* t. 6. f. 8. Triangularly ovate, ventricose, thin, smooth, pellucid, pale ochraceous, finely striated, transversely and wrinkled at both ends; umbones incurved and pale reddish purple; within, white with a large purple stain under the hinge. 2.. $2\frac{1}{2}$ .—*Tranquebar.*

M. PLICATARIA. *Lin.* 1125.—*D.* p. 132.—*Lam.* 14.—*Ch.* f. 202, 3, 4.—M. SUBPLICATA. *W. S.* f. 6. Oblong, thin, diaphanous, pale dull brownish-white, strongly plaited transversely both inside and out; hinge much nearer the anterior than the posterior extremity, both depressions flattened, the oblong posterior the most so.  $1\frac{1}{2}$ .. $2\frac{1}{2}$ .—*Indian Ocean.*

M. RUFESCENS. *Lam.* 15. Triangularly ovate, sub-equilateral, solid, rather tumid, reddish fulvous, slopes striated, smooth near the beaks which are approximate, but with coarse plait-like striæ towards the ventral margin, which is much arcuated but anteriorly incurved slightly; inside opaque white, the teeth strong, the V-shaped one large, the lateral smooth, moderately distant, sub-equal.  $1\frac{1}{2}$ .. $2\frac{1}{2}$ .—*New Holland.*

M. MACULATA. *Gm.* 3260.—*D.* p. 134.—*Lam.* 16.—*Ch.* f. 208, 9.—*E.* t. 254. f. 3.—*W.* t. 6. f. 7. Obtusely triangular, slightly angulated at the anterior and rounded at the posterior depressed extremity, inflated, thin, white, with scattered reddish chestnut spots.  $1\frac{1}{2}$ .. $2\frac{1}{2}$ .—*Nicobar Isles.*

**M. SUBPLICATA.** Lam. 17.—*Ch.* f. 205, 6. Triangular, thin white, somewhat plaited at the sides near the beaks, disc smooth; hinge with a lateral bilobed tooth.—*A large species intermediate between Carinata and Striatella, having its anterior slope on each side bounded by an angle as in Picataria.*

**M. TRIANGULARIS.** Lam. 18.—*E.* t. 253. f. 3. Triangular, solid, white with transverse plaits and scattered chestnut spots which become larger as they approach the margin; slopes grooved; lateral teeth cross-ribbed and elongated.—*The figure quoted by Lamare is nearly twice as broad as it is long, depressed and marked with darker transverse bands on the depressions.*  $\frac{3}{4}$ ..1 $\frac{1}{4}$ .

**M. LACTEA.** Lam. 19.—*An. Gmel.* no. 11!—**M. SOLIDA.** Payr. p. 30.—*Poli.* 1. t. 18. f. 13, 4. (*magnified*).—**M. CORALLINA.** Lin.? Ovale-triangular, sub-equilateral, rather longer and slightly narrower posteriorly, very white, sub-turgid, thin, pellucid, delicately striated concentrically, the ventral edge much rounded.  $\frac{3}{4}$ .—*Mediterranean.* *Poli* represents the depressions as very strong and apparently grooved.

**M. ABBREVIATA.** Lam. 20. Obtusely triangular, transversely shortened, white with the depressions elegantly plaited.  $1\frac{1}{2}$ .—*Port Jackson in New Holland.*

**M. OVALINA.** Lam. 21.—*Deless.* t. 3. f. 7. Ovale, thin, pellucid, white, finely striated near the margin, anterior slope bounded by an angle; beaks very smooth.  $1\frac{3}{4}$ .—*Indian Ocean?*

**M. ALBA.** Lam. 22.—*Ch.* f. 230, 1!—*E.* t. 254. f. 5! Obtusely triangular, turgid, diaphanous; with minute transverse striæ, and a few longitudinal obsolete lines. 2.—*Indian Ocean.*

**M. SOLIDA.** Lin. 1126.—*D.* p. 140.—*Lam.* 23.—*Don.* t. 61. —*Ch.* f. 229, 0.—*Mont.* p. 92.—*Turt. B.* p. 67.—*W.* t. 6. f. 21.—*List.* t. 253. f. 87. Sub-triangular, nearly equilateral, thick, opaque, slightly depressed from the beaks at both extremities, nearly smooth, with a few coarse concentric ridges, yellowish-white; within glossy white and the lateral teeth striated.  $1\frac{1}{4}$ ..1 $\frac{1}{4}$ .—*Europe.*<sup>1</sup>

**M. SQUALIDA.** Lam. 26. Sub-triangular, tumid, inequilateral, yellowish obscurely speckled with fulvous; anterior side the longer, and stained with brown.  $1\frac{3}{8}$ .—*The shell I have figured agrees exactly with this brief description, but is, I fear, no more than a variety of Maculata.*

**M. BRASILIANA.** Lam. 27.—*An. M. FRAGILIS*, *Ch.* f. 235.—*An. D.* p. 145. in part.—*Turt. B.* t. 4. f. 10. Ovale-elliptical, sub-equilateral, sub-triangular, nearly smooth; anterior slope with obliquely diverging longitudinal striæ, epidermis brown. 2 $\frac{1}{2}$ .—*Rio*

<sup>1</sup> *M. Castanea*, Lam. 23, is a depressed and rubbed variety of this species, and *M. Rufa*, Lam. 24, is a rubbed *Stuktorum*.

*Janeiro*.—The Oblonga of Say, in Journ. A. N. S. Phil. 2, and the Californica of Conrad, in the seventh vol. of the same work, are (to say the least) closely allied to this species.<sup>1</sup>

M. PELLUCIDA.\* *Chem. f.* 234.—*D.* p. 144.—M. DEPRESSA. *Lam.* 29.—M. DEALBATA. *Mont.* p. 95. *t.* 5. *f.* 1.—*W.* *t.* 6. *f.* 32. Sub-ovate, thin, pellucid, white and convex; disc smooth and depressed, the sides with somewhat plait-like striæ.—*Brazil*.

M. LISOR. *Adans. n. Senegal.* *t.* 17. *f.* 16. Ovate-triangular, rather longer and more acuminate anteriorly; thin, polished, smooth but grooved on the flattened slopes and towards the posterior ventral edge; umbones rather distant; lateral teeth, thin, laminar, moderately distant; either pale fulvous with linear livid rays and the beaks and interior violet, or uniform white, or white with lilac zones and violet beaks, under which is a dark stain internally.  $\frac{3}{4}$ ..1 $\frac{1}{4}$ .—*Senegal, &c.*<sup>2</sup>

M. TRIGONELLA. *Lam.* 31.—*E.* 259. *f.* 2? Triangular inequilateral white; hinge with the teeth if any indistinct.—*Bay of Sea Dogs*.

M. TRUNCATA. *Mont. Sup.* p. 34.—*Turt. Biv.* p. 68.—AN. M. TRIANGULARIS. *Ranieri?*—M. SUBTRUNCATA. *Don.* *t.* 126.—M. CRASSATELLA. *Lam.* 33. Triangular, equilateral, solid, convex, anteriorly sub-angulated, depressed from the beaks at both extremities, so that the sides almost form a rectangle at the prominent beaks, ventral edge short and rounded; yellowish white, irregularly striated by the lines of growth; umbones large and prominent; slopes and lateral teeth striated. 1 $\frac{1}{2}$ ..1 $\frac{1}{2}$ .—*N. Europe*.

M. SUBTRUNCATA.\* *Mont. Sup.* p. 93. *t.* 27. *f.* 1.—*D.* p. 141.—*Turt. B.* p. 70.—*W.* *t.* 6. *f.* 23.—*Flem.* p. 427. Oval-triangular, inequilateral, convex, whitish or yellowish horn colour, with regular coarse transverse striæ; one side truncated, the other produced in a straight line to a rather acute point; beaks tumid, prominent without curvature; lateral teeth striated.  $\frac{3}{4}$ ..1.—*England*.

M. AUSTRALIS. *Sow. in Beech. Zool.* p. 154. *an. t.* 44. *f.* 6? Subtrigonal, ovate, convex, rounded and rather shorter posteriorly, attenuated and obtusely angulated anteriorly, the ventral edge much arcuated: white under a thin ashy epidermis, polished and nearly smooth: anterior slope obtusely defined, and the edge sloping outwards; both depressions somewhat grooved: inside pure white, the lateral teeth large, moderately distant and entire. 1 $\frac{1}{2}$ ..1 $\frac{1}{2}$ .—*St. Lawrence River*.

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\* Donacia, *Lam.* 28, belongs to MESODESMA.

\* This latter variety is probably the Lilacea of *Lam.* 30. Ovate-triangular, solid, violet-white with violet beaks and zones, smooth, but towards the ventral edge, plicated; within with a large fulvous spot beneath each beak.

*M. ELEGANS.* *Sow. Tank. Cat. t. 1. f. 3.*—*Desh. in Lam. 6. p. 107.* Rounded triangular, the hinge margin nearly forming a right angle at the beak, whilst the ventral margin is all but a semicircle, tumid, thin, anterior slope sharply carinated; yellowish white, with rounded concentric grooves: lateral teeth short small and approximate.—*Florida. A more rounded and tumid shell than Plicataria.*

*M. VITREA.* *Gray. Mag. N. H. 1837.* Oblong trigonal, thin, white, pellucid, umbones incurved, sub-anterior; posterior slope flattened, edge waved: anterior slope compressed, its depression elongated, with a slight riblike raised edge; lunule depressed, lanceolate: lateral teeth short, very small, and very approximate.  $1\frac{1}{2}$ .

*M. CYGNEA.* *Chem. f. 207.*—*D. p. 134.*—*M. CYGNUS. Gmel. 3260.*—*W. t. 6. f. 6.* Ovate triangular, ventricose, slightly wrinkled transversely, solid, whitish, and anteriorly obliquely truncated: the posterior slope heart-shaped and finely striated: umbones close: lateral teeth smooth.  $1\frac{1}{2}$ .—*China.*

*M. EXOLETA.* *Gray. Mag. N. H. 1837.* Trigonal, white, thin, pellucid, slightly striated concentrically, covered with thin pale periostraca; posterior slope compressed, produced, anterior slope ventricose, flattened, edged with a slightly raised keel: anterior lateral teeth very small and close, the posterior one elongated.—*Cape Horn.*

*M. DISCORS.* *Gray. Mag. N. H. 1837.* Ovate, trigonal, rather solid, ventricose, white; umbones nearly close, with two diverging reddish lines; anterior depression rather flattened, rugulose, margined by slightly raised lines, with two or three raised concentric ones: lunule concentrically grooved: lozenge, smooth; lateral teeth subequal and moderately distant.

*M. REEVESII.* *Gray. Mag. N. H. 1837.* Wedge-shaped, thin, white, pellucid, striated concentrically: curved near the umbo: lateral teeth subequal, rather long and approximate: hinge margin two-edged.—*China.*

*M. ELONGATA.* *Quoy. Ast. t. f.* Oblong-ovate, rather solid, smooth pale brown, covered with a rather thin olive epidermis: anterior slope slightly rugulose: lateral teeth close, rather short, the posterior one notched, the other sub-triangular.  $1\frac{1}{2}$ .—*New Zealand.*

*M. SIMILIS.* *Gray. in W. S. t. 1. f. 5.*—*SPISULA S. Gray. Mag. Nat. H. 1837.*—*Beech. Z. t. 44. f. 8.*—*M. OVALIS. Gould. p. 53? (fide Gould.)* Oblong ovate, rather thin, pale reddish white under an olive epidermis: anterior slope slightly indicated: lateral teeth short, triangular, close. 2..3.—*Van Diemen's Land.*

*M. ASPERSA.* *Sow. Tank. Cat.*—*M. TENERA. W. S. t. 1. f. 4.* Oblong, compressed, inequilateral, rather solid, smooth, but slightly rugulose on the anterior slope, and the posterior concentrically grooved: white, speckled with dark chesnut. 2.



**M. SAULII.** *Gray. Annals. Nat. His.* 1. Oval, sub-triangular, very depressed and thin, smooth, polished, sub-equilateral, rounded at the sides, pale yellowish with crowded pale chestnut rays; slopes not striated, nor depressed, each with a transverse bar of chestnut; inside uniform white, the lateral teeth laminar and moderately distant, the v-shaped tooth large.  $1\frac{1}{2}$ . 2.

**M. NUCLEUS.** *Conr. Jour. A. N. S. Phil.* 6. t. 11. f. 4. Small, triangular, thick, with an obsolete concentric ridge; umbones flattened and rectilinear, apices sub-central and very acute; one of the slopes depressed; lateral teeth strong; inside pale brown.  $\frac{1}{2}$ .—*New Jersey*.<sup>1</sup>

<sup>1</sup> See also the *M. Cuneata* of Chemnitz, f. 215. (*D.* 135.—*W. t.* 6. f. 10.) figured with the hinge of *Macra* and an external cartilage! We have given a copy. See too the *M. Achatina*, Chemnitz. (*W. t.* 6. f. 20.)

To this genus may be attached the *MULINÆ* of Gray, which are thus characterised in the Magazine of Nat. History for 1837. "*Ovate, trigonal, sub-angular at each end. Teeth like Macra. Siphonal inflection ovate, distinct. Ligament internal! in a triangular groove in the upper surface of the deep oblique cartilage pit, quite hidden.*"

\* *Anterior slope circumscribed by a raised line.*

**M. TYPICUS.** *Gray.*—Ovate, suborbicular, convex, solid: umbones wide apart: area lozenge-shaped: lateral teeth very short, high, thick, round: cartilage pit projecting into the cavity of the shell.

**M. BICOLOR.** *Gray in Mag. N. H.* 1837. Ovate, rather convex, solid, white; umbones and anterior slope, orange, varied: lateral teeth short, compressed, triangular; cartilage pit projecting into the cavity of the shell: (in the young, the anterior slope separated by a distinct line: umbones brownish.)

\*\* *Trigonal, anterior slope flattened.*

**M. LATERALIS.** *Gray.*—*MACT. L. Say. Jour. A. N. S. Phil.* 2. p. 309.—*Gould. f.* 34, 5.—*Conr. Am. C. t.* 14. f. 2. Very convex, nearly smooth; the lateral margins flattened, cordate with a straight, sometimes concave profile, the one rounded at the tip, the other longer and less obtuse: umbo sub-central, prominent.  $1\frac{1}{2}$ .—*N. America.*

**M. DONACIFORMIS.** *Gray. Mag. N. H.* 1837.—*Beechey. Z.* t. 44. f. 13. Trigonal, anteriorly sub-cuneiform, posteriorly somewhat rounded; ventricose, white under a thin epidermis: anterior slope flattened, keeled on the edge. 2.—*S. Seas.*

CRASSATELLA.

*Inequilateral, suborbicular or transverse, closed; primary teeth two, somewhat divergent, with a hollow at the side; no lateral teeth, nor obsolete ones; ligament internal, inserted in a pit in each valve.*

C. KINGICOLA. *Lam.* 1.—*Sow. G. f.* 2.—*Reeve. Ic. f.* 5. Ovate-orbicular, sub-gibbous; yellowish-white under a brown epidermis, obsoletely rayed, with delicate transverse striae, the beaks plaited. 3.—*New Holland.*

M. EDULIS. *Gray. Mag. N. H.* 1837.—MACT. E. *Z. J.* 5. p. 335. (*young?*) Ovate, thin, white, smooth, covered with a thin olive or reddish epidermis, forming two raised edges on the anterior slope: anterior slope white; lateral teeth short, triangular. 2..2½.—*Port Famine.*

\*\*\* *Anterior slope simple.*

M. BYRONENSIS. *Gray.*—*Beech. Z. t.* 44. *f.* 11. Ovate, slightly triangular, white, rather solid; lateral teeth short and rounded, (thinner when young).—*S. America.*

M. EXALBIDA. *Gray. in Mag. N. H.* 1837. Ovate-oblong, white, rather thick; umbones sub-anterior: lateral teeth short and thick, the posterior one sub-tubercular.—*S. America.*

M. EDULIS. *Gray. Mag. N. H.* 1837.—MACTRA E. *King. Z. J.* 5. Sub-triangular, tumid, smoothish, squalid fulvous; inside white, the lateral teeth prominent. 2..2½.—*Port Famine.*

M. LATERALIS. *Gray.*—MACTRA L. *Say. Jour. A. N. S. Phil.* 2. p. 309.—*Gould. Mas. f.* 34, 5.—*Conr. Am. C. t.* 14. *f.* 2. Triangular, very convex, nearly smooth; lateral margins flattened, cordate, with a straight sometimes concave profile, one rounded at the tip, the other longer and less obtuse: umbo sub-central, prominent. ¼..½.—*U. States.*

The shell, at present the sole representative of Mr. Gray's genus GNATHODON, cannot strictly be included under any of the Lamarckian genera, it comes tolerably close however to Mactra.

GNATHODON. *Gray.*

Sub-oval, equivalve, inequilateral, covered with an olive green cuticle, generally a little decorticated at the umbones; a lateral and two cardinal teeth in one valve, two cardinal and two lateral in the other, the ligament in an intervening pit: sinus of the muscular scar small.

G. CUNEATUS. *Gray. Mag. Nat.* 1837.—*Sow. G.*—*Reeve. t.* 43.

C. DONACINA. *Lam.* 2.—*Reeve. Ic. f.* 19.—*Del. t.* 4. *f.* 1. Ovate-triangular, very inæquilateral, the posterior side being the shorter and rounded, gibbous, with small transverse striæ and a thin reddish-brown epidermis; beaks smooth and the depressions sunken.—*New Holland.*—*Variety.* The beaks with wrinkled plaits.

C. SULCATA. *Lam.* 3.—*Reeve. Ic. f.* 6. Triangularly-ovate, very inæquilateral, the anterior side being produced attenuated and angulated, the posterior rounded; gibbous, plaited and grooved transversely, but the beaks nearly smooth.—*New Holland.*—*Variety.* More depressed and elegantly plaited.

C. ROSTRATA. *Lam.* 4.—*Sow. G. f.* 1 & 3.—*E. t.* 253. *f.* 2.—*Reeve. Ic. f.* 10.—*An. Del. t.* 4. *f.* 2, 3. ? Ovate-triangular, anterior side rather produced and sub-angular, smooth, beaked, fulvous or yellow under a brown epidermis with fine and scarcely apparent vertical rays, inner margin crenulated.  $1\frac{1}{2}$ ..2.—*S. America? Ceylon?*

C. SUBRADIATA. *Lam.* 6.—*An. Reeve. Ic. f.* 15. ? Triangular, sub-æquilateral, transversely grooved, greyish fulvous with obsolete white interrupted rays.  $\frac{3}{4}$ —*South Seas.*—*Not unlike Ch. f.* 222, and very closely akin to the next species.

C. CONTRARIA. *Lam.* 7.—*VENUS C. Gm.* 327.—*D. p.* 200.—*Ch. f.* 317, 8, 9.—*Reeve. Ic. f.* 18.—*W. t.* 8. *f.* 95. Triangularly ovate, tumid, white or reddish fulvous, variegated with chesnut spots; anterior portion with transverse, posterior with obliquely longitudinal striæ: inside with a purplish tinge, especially towards the border which is crenulated: beaks coloured.—*Variety.* White with rufous flexuous spots: beaks livid.—*Variety.* Reddish fulvous with varied brown spots: beaks red.  $\frac{3}{4}$ —*Guinea; Canaries.*

C. CASTANEA. *Reeve. Z. P.* 1841. & *Icon. f.* 3. Ovate-triangular, gibbous anteriorly angulated, posteriorly rounded; the umbones distinctly eroded, the epidermis shining, horny and chesnut; inside somewhat fuscous.  $3\frac{1}{2}$ ..3 $\frac{1}{2}$ —*N. Holland.*

C. DECIPiens. *Z. P.* 1841. & *Ic. f.* 4.—C. KINGICOLA. *Reeve. Syst. t.* 44. *f.* 3. Ovate, sub-gibbous, the epidermis brown, brilliantly rayed, the rays often extending to the ventral margin: anterior side slightly the more produced sub-quadrate, posterior sub-angulated and adorned with short striæ.  $2\frac{1}{2}$ ..2 $\frac{1}{2}$ —*New Holland.*

C. PULCHRA. *Reeve. Z. P.* 1841. & *Ic. f.* 16. Ovate-triangular, depressed, anteriorly but slightly produced and sub-angulated, posteriorly rounded: with obsolete rays and transverse very deep regular grooves running parallel to the lines of growth: epidermis thick fibrous and rather soft.  $2\frac{1}{2}$ ..2 $\frac{1}{2}$ —*N. Holland.* Allied to *Sulcata*.

C. LAPIDEA. *Reeve. Z. P.* 1841. & *Ic. f.* 7. Ovate-orbicular, anteriorly sub-angulated, posteriorly marked with some short striæ,

abrupt and rounded; epidermis fibrous; umbones small and striated: inside somewhat fuscous.  $1\frac{1}{4}..1\frac{3}{4}$ .—*Philippines*.

C. ANTILLARUM. *Reeve. Z. P.* 1841. & *Ic. f.* 8. Ovate-triangular scarcely gibbous, thick, anteriorly sub-angulated, posteriorly rounded; epidermis fibrous: umbones somewhat depressed and slightly undulated: inside rich chocolate brown becoming pale and whitish towards the margin.  $2\frac{1}{4}..3\frac{1}{4}$ .—*W. Indies*.

C. JUBAR. *Reeve. Z. P.* 1841. & *Ic. f.* 11. Sub-ovate, very inequilateral, gibbous, posteriorly inclined and rounded, anteriorly arcuated; with brilliant rust coloured expanding rays under a fuscous here and there bruised epidermis, the sides marked with numerous irregular striæ; umbones compressed and plicated: inside white, anteriorly brown.  $1\frac{3}{8}..2\frac{1}{8}$ .—*W. Australia*.

C. CORBULOIDES. *Reeve. Z. P.* 1841. & *Ic. f.* 9. Sub-orbicular, very gibbous, deeply grooved towards the umbones, epidermis brown: posteriorly rounded, anteriorly produced and suddenly rostrated.  $1..1\frac{1}{2}$ .

C. ZICZAC. *Reeve. Z. P.* 1841. & *Ic. f.* 13. Sub-triangular, depressed, yellowish under a thin epidermis, with flexuous rosy linear markings and two interrupted rays; anteriorly sub-angulated, posteriorly shortish and rounded: lunule on each side brilliantly banded with rosy rays: within somewhat rosy.  $1..1\frac{1}{4}$ .—*Philippines*.

C. TRIQUETRA. *Reeve. Z. P.* 1841. & *Ic. f.* 14. Triangular, solid, rosaceous under a thin epidermis, brilliantly painted with deep pink spots, and transversely striated; sides nearly straight and scarcely rounded; lunule on each side large, and brilliantly banded with rosy rays: inside rosaceous becoming white towards the finely crenulated margin.  $\frac{5}{8}..1\frac{1}{8}$ .

C. ORNATA. *Reeve. Z. P.* 1841. & *Ic. f.* 17.—*MENODESMA* (). *Gray in Grif. Cuv.* Triangular, somewhat depressed, anteriorly flexuous and angulated, posteriorly rounded: pale with transverse striæ and short longitudinal chestnut linear markings: within white and brown, the margin finely crenulated.  $\frac{3}{4}..1\frac{1}{4}$ .

C. UNDULATA. *Sow. Z. P.* 1832.—*Reeve. Ic. f.* 2. Oval, brown spotted with fuscous under a fuscous epidermis; within brown becoming white posteriorly; the umbones undulated; the posterior side inclined and rounded; the anterior the longer, acuminate and angulated.  $1\frac{1}{2}..2\frac{1}{5}$ .—*Central America*.

C. GIBBOSA. *Sow. Z. P.* 1832.—*Reeve. Ic. f.* 1. & *Sys. t.* 44. f. 2. Sub-oval, gibbous, rather pale, under a brown epidermis; within whitish but anteriorly brown; the umbones undulated and compressed; the posterior side inclined, rounded, with a few short grooves; the anterior arcuated, elongated, and acuminate.  $1\frac{1}{4}..1\frac{3}{4}$ .—*S. America*.

C. RADIATA. *Sow. Tank. Cat. t.* 1. f. 2.—*Reeve. t.* 44. f. 1.

& *Ic. f. 12.* Arcuated, the anterior extremity carinated and forming a sharp beak, concentrically grooved, whitish rayed with interrupted chesnut spots: chesnut within.  $\frac{3}{4}$ ..1.—*New Holland and Singapore.*<sup>1</sup>

<sup>1</sup> *Glabrata* Lam. 5, *Cuneata* 8, *Erycinea* 9, *Cycladea* 10, and *Striata* 11, belong to *MESODESMA*, which Deshayes thus characterises.

#### MESODESMA.

*Oval, transverse or triangular, and usually shutting close: hinge with a narrow central spoon-shaped pit for the ligament, and on each side of it an oblong and simple tooth.*

*M. DONACIA.* *Desh.*—*MACTRA* D. *Lam.* 28.—*E. vol. 3. p. 442. Reeve. t. 45. f. 4.* Solid, transverse, striated; posterior side very short and subtruncated, anterior very produced. 2.—*Peru.*

*M. GLABRATA.* *Desh.*—*An. MACTRA* G. *Gmel.* 3258.—*E. t. 257. f. 8.*—*CRASSATELLA* G. *Lam.* 5.—*An. MACTRA* TAPROBANENSIS, *W. S. t. 1. f. 12.* Triangular, solid, white, grooved at the ventral edge and anteriorly, the beak and umbones glabrous. 1.—*Ceylon.*

*M. COMPLANATA.* *ERYCINA* C. *Som. G. f. 6.*—*M. GLABRATA.* *Reeve, t. 45. f. 6.* Ovate-subtriangular, rounded at both ends, inequilateral, rather compressed, solid, white under a perfect glabrous olive green cuticle; ventral edge rather arcuated.  $\frac{3}{4}$ ..1 $\frac{1}{2}$ —*Australia.* *Erroneously quoted by Deshayes as synonym of Cr. Glabrata Lam.*

*M. CUNEATA.* *Desh.*—*CRASSATELLA* C. *Lam.* 8.—*M. SUBTRIANGULATA.* *Gray. in Grif. Cuv.—W. S. f. 10. (fide Gray in B. M.)* Solid, transverse, smooth, somewhat wedge-shaped: posterior side very short subtruncated, whitish. 1.—*New Holland. Shape of a Donax.*

*M. CYCLADEA.* *Desh.*—*CRASSATELLA* C. *Lam.* 9. Obtusely triangular, thin, gibbous, reddish grey, finely striated transversely: within somewhat pearly, lateral teeth rather long.—*S. America. Shape and size of Cyclas Cornea.*

*M. ERYCINA.* *Desh.*—*CRASSATELLA* E. *Lam.* 10.—*Del. t. 4. f. 4.*—*Ast. t. 82. f. 1, 2, 3, 4.* Triangular, smooth, greenish-fulvous, rather depressed: beaks decorticated.—*Van Diemen's Land.*

*M. STRIATA.* *Desh.*—*CRASSATELLA* S. *Lam.* 11.—*MACTRA* S. *Gmel.* 3257.—*W. t. 6. f. 16.*—*D. p. 137.*—*Ch. f. 222, 3.*—*ERYCINA* S. *Som. G. f. 2.*—*E. t. 254. f. 4.* Triangular, compressed, whitish, with numerous thick transverse groove-like striæ; beaks glabrous. 1.—*New Holland.*

*M. CHEMNITZII.* *Desh.*—*Reeve. t. 45. f. 1.*—*MYA AUSTRALIS.* *Gmel.* 3321.—*MACTRA* A. *D. p. 141.*—*Ch. f. 19, 20.*—*Ast. t. 82.*

ERYCINA.

*Transverse, sub-inequilateral, equivalve, rarely gaping; with two primary teeth, unequal, diverging, with a pit interposing; lateral*

*f. 9, 0, 1. CRASSATELLA OVATA. W. S. Mact. f. 11. Ovate-oblong, transverse, subæquilateral, thick, solid, greenish-yellow, smooth; interior white, hinge thickened, ligamental pit deep and produced at the base, teeth nearly equal. 2½.—Australia?*

*M. DONACILLA.\* Desh.—AMPHIDESMA D. Lam. 2.—DONAX PLEBEIA, Mont. t. f. 5. f. 2.—D. p. 102.—W. t. 6. f. 10.—ERYCINA P. Sow. G. f. 3.—Reeve. t. 45. f. 5. Ovate triangular, wedge-shaped, smooth, glossy; posterior side very short and obtuse; variable in colouring, being sometimes yellow, pale with three or four chesnut or dark rays, and often yellow with a broad central white ray, edged with chesnut, inside yellowish. ¾.—Mediterranean, Gulf of Tarentum.*

*M. CORNEA. Desh.—AMPHIDESMA C. Lam. 4.—Del. t. 4. f. 5. Ovate-triangular, reddish horn-colour, unspotted, posterior side very short. 1.—Mauritius.*

*M. GLABELLA. Desh.—AMPHIDESMA G. Lam. 13.—Bl. t. 78. f. 6. Suboval, white, semitransparent, small and transversely striated; anterior side the shorter and obliquely truncated. ¾. . ½.—New Holland.*

*M. SOLENOIDES. Gray.—ERYCINA S. King in Z. J. 4.—Grif. Cuv. mol. t. 22. f. 1. Elongated-subelliptic, thin, obtuse at both extremities, and much produced, closely substriated concentrically, whitish under a greyish brown epidermis: ligamental pit projecting much below the hinge margin. ¼. . 2.—S. America.*

*M. ARCTATA. Gould. Mus. f. 39.—MACTRA A. Contr. Jour. A. N. S. Phil. 6. t. 11. f. 1.—Reeve. t. 45. f. 3. Wedge shaped, sub-ovate, smooth, thick, compressed; anteriorly very short, obtusely truncated directly, posteriorly produced with the end margin rounded, ventral edge arcuated; cuticle golden yellow, reflecting a metallic lustre; cartilage pit triangular and profound; lateral teeth striated transversely, the posterior one elongated. ¾. . 1½.—Massachusetts.*

*M. DEURATA.—MACTRA D. Turt. Biv. t. 5. f. 8. p. 71.—MAC. DENTICULATA. W. S. f. 9.—Grif. Cuv. mol. t. 22. f. 2.—An. MES. JAURESII of Mag. de Z. and Gould Mus. Elongated, wedge-shaped, convex, thick, dirty white with ridges of growth under a tawny and hornlike epidermis, which usually reflects metallic colours: elongated side rounded, shorter side obtusely, but not directly truncated: muscular scars of teeth very strong, the latter and their receptacles strongly striated.*

Compare with these the British *Donax Castanea* (Mont. t. 17. f. 2.—D. p. 152.—W. t. 6. f. 10.) which evidently belongs to this genus. We have copied the figure of Montague.

*teeth two, oblong, compressed, short, and inserted; ligament internal, situated in a pit.*

**E. CARDIOIDES.** *Lam.* 1.—*Bl.* t. 73. f. 7.—*E.* vol. 2. p. 117.—*Del.* t. 4. f. 7. Roundish, orbicular, small, decussated by transverse distant and longitudinal close set striæ.  $\frac{3}{4}$ .—*New Holland*.<sup>1</sup>

#### UNGULINA.

*Longitudinal, sub-transverse, rounded at the ventral margin, sub-equilateral, with the valves closed; beaks decorticated; one short primary cleft tooth in each valve, with an oblong marginal groove divided in the middle; ligament internal, inserted in a pit.*

**U. OBLONGA.** *Lam.* 1.—*Reeve.* t. 46.—*Bl.* t. 73. f. 6. Convex, longer than broad, rounded when young, becoming elongated

<sup>1</sup> I have seen Lamarck's own specimen of this (the only recent species mentioned by him) and can aver with certainty, that it does not belong to this genus, as the ligament is clearly external. It appears much more like an aberrant Venus. M. Deshayes dwells much on the error (as he considers it), of Mr. Sowerby's uniting *Mesodesma* with this genus. I hardly know any one, who, on reading carefully Lamarck's characters, would not have come to the same conclusion, although assuredly few if any of the fossil species could be classed with the latter genus, the majority of them as well as the recent *E. Geoffroyi* of Payraydeau, approximating much more closely to the genus *Kellia* of Turton.

**E. GEOFFROYI.** *Payr. Cat.* t. 1. f. 3, 4, 5. Small, ovate-triangular, thin, flattish, snowy white, pellucid, shining, sub-equilateral, slightly striated transversely, adorned with small brown interrupted longitudinal lines, which seem to lie beneath the surface.  $\frac{3}{4}$ .—*Mediterranean*.

If we may include the genus *MONTACUTA* of Turton in any of the Lamarckian genera, we must refer it to *Erycina*. I extract its characters from Turton's *British Bivalves*, p. 59. "Oval or oblong, equivalve, inequilateral, mostly closed; hinge with two teeth in each valve and a cavity between them, lateral teeth none; ligament internal."

**M. FERRUGINOSA.\*** *Turt. B.* p. 60.—**MYA F.** *Mont. Sup. t.* 26. f. 2.—*D.* p. 46.—*W.* t. 2. f. 19. Oblong, slightly striated concentrically, white often covered with an ochraceous coat, very inequilateral, beaks obtuse: one of the teeth in each valve erect, the other much bent inwards, and sloping downwards.  $\frac{3}{4}$ .—See too the **M. BIDENTATA.** *Turton.*—(**MYA B.** *Mont. t.* 26. f. 5.)—Also his **M. SUBSTRIATA.** *Turt. B.* t. 11. f. 9 & 10.—and his **OBLONGA.** (*Turt. B.* t. 11. f. 11. 2.)

See likewise the *E. Fontenayi* of Mitre in *Revue Z. Cuv.* 1814.

by age, margin rounded, tawny brown, with curved wrinkles.—  
*Variety.* (U. TRANSVERSA. Lam. 2.)—Broader than long. 1.—  
 Senegal.—The muscular impressions very elongated, straight and  
 resembling those of the genus *Lucina*, united by a simple palléal scar.

SOLEMYA.

*Inequilateral, equivalve, transversely elongated, extremities obtuse,  
 with the epidermis smooth, shining, and projecting; beaks not  
 prominent and hardly distinct; a dilated, compressed, oblique  
 cardinal tooth in each valve, slightly concave above for the re-  
 ception of the ligament; ligament partly external and partly  
 internal.*

S AUSTRALIS. Lam. 1.—Bl. t. 79. f. 1. Oblong, brown,  
 shining, rayed; valves notched near the beaks. 1½.—New Holland.

S. MEDITERRANEA. Lam. 2.—Sow. G.—W. S. f. 1.—Poli.  
 1. t. 15. f. 20.—E. t. 225. f. 4.—Reeve. t. 29. f. 1. Oblong,  
 brown, shining, rayed with yellow; beaks not cleft, no callous sup-  
 ports to the cartilage. 1½.—Mediterranean.

S. BOREALIS. Totten. Sil. J. 26. p. 366. f. 1.—K. VELUM.  
 Conrad. Am. Mar. C. t. 66. f. 16.—Gould. Mas. p. 36. Fragile,  
 oblong: epidermis dark brown with fifteen to twenty lighter radiat-  
 ing lines: within grayish-blue, cartilage support forked, the anterior  
 branch directed obliquely hindwards.—N. America.—No fissure  
 at the beaks.

S. VELUM. Say. Journ. A. N. S. Phil. 2. p. 317.—Gould.  
 Mas. p. 35. Oblong, very thin, dorsal and ventral edges straight  
 and parallel, rounded at each end, rather longer posteriorly, rayed  
 with about fifteen double lines which are sparse about the middle of  
 the shell, the cuticle pale yellowish-brown: inside purplish-white;  
 the hinge without teeth, with a slightly prominent cartilage, and an  
 internal elevated cartilage support, which is arched and the points  
 directed across the shell. 1½.—U. States.

AMPHIDESMA.

*Inequilateral, transverse, sub-oval or somewhat rounded; with  
 the sides slightly gaping; hinge with one or two cardinal teeth,  
 and a narrow groove for the internal ligament; ligament double,  
 the external one short, the internal one fixed in the internal  
 grooves.\**

A. VARIEGATUM. Lam. 1.—E. t. 291. f. 3.—Sow. G. f. 1.  
 —AN. TEL. OBLIQUA.† Wood. G. C. t. 41. f. 1, 2.—D.

\* A. Donacillum. Lam. 2, Corneum 4, Glabrellum 13, are  
 described under Mesodesma. A. Lacteum 3, and Lucinale 6, under  
 Lucina.

† We have copied this figure.



A. CORRUGATUM. *Sow. Z. P.* 1832. Sub-orbicular, whitish, longitudinally striated and concentrically wrinkled; epidermis fuscous, anterior dorsal margin straight and inclined: within yellowish.  $1..2\frac{1}{10}$ .—*Peru*.

A. AUSTRALE. *Sow. Z. P.* 1832. *Reeve t.* 47. *f.* 4.—*C. I. f.* 4. Sub-orbicular, rounded, concentrically wrinkled, whitish with at times pink rays.  $\frac{1}{4}$ .—*New Holland*.

A. RUPIMUM. *Sow. Z. P.* 1832.—*C. I. f.* 10. Sub-oval or sub-orbicular, rather irregular, white with sometimes a few rays near the margin, radiatingly striated, concentrically wrinkled by interrupted ribs but smooth at the umbones; inside white, the lateral teeth rather close, short, thick, and as well the anterior dorsal margin purple.  $\frac{1}{2}\frac{3}{8}..1\frac{1}{4}$ .—*Pacific*.

A. LÆVE. *Sow. Z. P.* 1832.—*Reeve, t.* 48. *f.* 6.—*C. I. f.* 5. Ovate, white, smooth under a thin horn-coloured epidermis, anteriorly shorter and rounded, posteriorly longer and sub-acuminated: an obsolete anterior sulcus running from the umbo to the ventral margin.  $\frac{1}{2}\frac{1}{6}..1\frac{2}{30}$ .—*W. Columbia*.

A. PURPURASCENS. *Sow. Z. P.* 1832. (*not Lam.*)—*Reeve t.* 48. *f.* 5.—*C. I. f.* 5. Oval, purplish, posteriorly rounded, anteriorly sub-acuminated, sub-truncated, anterior dorsal margin straightish and crenulated, with acute concentric, very crowded, thin, fulvous and crenulated ribs.  $\frac{1}{2}\frac{3}{8}..1\frac{2}{10}$ .—*W. Columbia*.

A. FORMOSUM. *Sow. Z. P.* 1832.—*Reeve. t.* 41. *f.* 8.—*C. I. f.* 8. Oval, whitish with rosy rays, purple spots, and concentric crowded ribs, which are wrinkled at each extremity: umbones yellowish within.  $\frac{1}{10}..2$ .—*W. Columbia*.

A. PALLIDUM. *Sow. Z. P.* 1832.—*Reeve. t.* 47. *f.* 3.—*C. I. f.* 3. Oval, pale purplish, fulvous, darker at the umbones, a thin rather iridescent epidermis, with delicate concentric striæ: anteriorly truncated, dorsal margin rounded.  $\frac{2}{10}..1\frac{1}{4}$ .—*W. Columbia*.

A. ROSEUM. *Sow. Z. P.* 1832.—*Reeve. t.* 47. *f.* 1.—*C. I. f.* 1. Sub-orbicular, under a brown glossy epidermis, rosy, concentrically ribbed, anteriorly sub-emarginated, the ribs crowded and acute.  $1\frac{1}{10}..2\frac{1}{2}$ .

A. LENTICULARE. *Sow. Z. P.* 1832.—*C. I. f.* 9. White, lenticular, smooth with delicate radiating striæ, which centrally and posteriorly are dissipated by other sub-concentric and flexuous ones; anterior margin sub-flexuous; epidermis very thin and yellowish.  $4\frac{1}{2}..2\frac{2}{10}$ .—*W. Columbia*.

A. RUBROLINEATUM. *Conr. Jour. A. N. S. Phil.* 7. *p.* 239. *t.* 18. *f.* 11. Sub-triangular, moderately thick; anterior side narrowed, folded, truncated at its extremity; beaks central: yellowish with pale red rays: depressions purple: inside tinged with purple in the middle, lateral teeth distinct. 1.—*U. California*.

A. DECISUM. *Conr. Jour. A. N. S. Phil.* 7. *p.* 239. *t.* 19. *f.* 2.

Sub-orbicular, thick, with thick concentric rugose, slightly prominent ribs, anterior side the shorter, direct and biangulated; fold distinct; beaks elevated, yellowish (rarely with faint red rays,) within bright rose red fading into white at the centre; lateral teeth distinct in each valve. 5.—*U. California*.

A. PULCHRUM. *Sow. Z. P.* 1832.—*Reeve. t.* 47. *f.* 2.—*C. I. f.* 2. Oval, pale, finely and concentrically striated: inside mottled with white and purple; the anterior side the shorter: posterior side inclined, somewhat radiatingly striated.  $1..1\frac{2}{3}$ —*S. America*.—*Not unlike Variegatum in shape*.

A. ELLIPTICUM. *Sow. Z. P.* 1832. Elliptic, sub-oblique, smooth with slight concentric striæ, white under a fuscous epidermis, posteriorly longer and rounded, anteriorly shorter and obliquely sub-truncated: inside pure white.  $\frac{2}{3}..2$ .—*W. Columbia*.

A. PUNCTATUM. *Sow. Z. P.* 1832.—*C. I. f.* 7. Oval thickish, whitish, with scattered tawny and rosy spots; anteriorly sub-truncated, with a flexuous fold; disc with impressed dots, ventral margin with some broad concentric ribs, dorsal spotted with rose at each end.  $\frac{1}{10}..1\frac{7}{10}$ .—*Gallapagos*.

## TRIBE CORBULACEA.

*Inequivalve shells with an interior ligament; one of the beaks always projecting beyond the other.*

### CORBULA.

*Regular, inequivalve, equilateral, scarcely if at all gaping; a conical, bent, ascending, primary tooth in each valve; a small pit at its side; destitute of lateral teeth; ligament external, fixed in the ligamental hollow.*<sup>1</sup>

C. SULCATA. *Lam.* 2.—*E. t.* 230 *f.* 1.—*Ch. f.* 1668 to 71. Sub-triangular, very gibbous at the beaks, posteriorly rounded and slightly shorter, anteriorly sub-rostrated, and the slope concave near the broad approximate beaks: whitish underneath but adhesive brown epidermis; both valves convex, the upper with strong rounded rather distant transverse ribs, the other simply sulcated.  $\frac{2}{3}..3$ .—*Senegal*.

C. ERYTHRODON. *Lam.* 3. Ovate, with transverse grooves; anteriorly sub-acute, and the more produced; inner margin purplish.  $1\frac{1}{3}$ .—*Peru and Chili*.

<sup>1</sup> C. Australis, Lam. 1, is a Saxicava. (*vide Desh.*)

anterior side the longer attenuated and slightly truncated: ventral edge slightly incurved.  $\frac{1}{2}$ .—*Rochelle in rocks.*<sup>1</sup>

#### PANDORA.

*Shell regular, inequivalve, inequilateral, and transversely oblong; upper valve flattened, and the under one convex; hinge with two oblong diverging cardinal teeth, in the upper valve, and the other valve with two oblong grooves; ligament internal.*

P. OBTUSA.\* *Lam.* 2.—*Sow. Sp. Con. f.* 1, 2, 3.—*Del. t.* 4. f. 8.—*TELLINA PINNA.* *Pennant. t.* 67. f. 3.—*SOLEN. P. Mont. t.* 15. f. 3.—*W. t.* 3. f. 35. Ovate, posterior side very short, obtuse and obliquely rounded ventrally, slightly angular dorsally: narrower than the anterior which is much lengthened and dilated: posterior dorsal edge nearly straight and angulated at the end, dorsal edge of the flat valve over-lapping the concave one.  $\frac{2}{3}$ ... $\frac{1}{10}$ .—*England.*

P. ROSTRATA.\* *Lam.* 1.—*Sow. G.*—*Sow. Sp. Con. f.* 7, 8, 9.—*TELLINA INEQUIVALVIS.* *Lin.* 1118.—*D. p.* 86.—*Don. t.* 41. f. 1.—*Turt. Biv. t.* 3. f. 11. to 14.—*E. t.* 250. f. 1.—*Ch. f.*

<sup>1</sup> It is scarcely possible from the imperfect description, to decide whether this shell is the *Anatina Truncata* of Turton, or a *Sphænia*. I give the characteristics of the former from Turton.

A. TRUNCATA.\* *Turt. Biv. p.* 46. t. 4. f. 6. Convex, wedge-shaped, slightly angular and truncated anteriorly, abruptly truncated posteriorly, rough, transversely striated; ventral edge nearly straight: teeth projecting a little inwards but running obliquely.—*England.*

Mr. Reeve in his systematic Conchology has placed as approximating to this genus,

#### MYOCHAMA. Stutchbury.

Inequivalve, adhering; the attached valve with two unequal diverging marginal teeth, separated at the umbo by a triangular pit, in which one end of a testaceous appendage is inserted and connected by a horny cartilage; the free valve with two unequal small diverging teeth close under the umbo, in which is inserted the other end of the testaceous appendage. Umbo of the free valve curved inwards, that of the fixed valve outwards. Muscular impressions two, nearly orbicular, distant, lateral; pallial scar with a short broad sinus. Ligament thin, external.

M. ANOMOIDES. *Stutch. Z. J.* 5. sup. t. 42. f. 1, to 4.—*Reeve. t.* 39. Rose coloured, thin, with prominent radiating dichotomous ribs. Free valve extremely convex, the umbo projecting beyond the apex of the other; epidermis thin and transparent.  $\frac{2}{3}$ ... $\frac{1}{12}$ .

105.—*W. t. 5. f. 97.* Oblong, anterior side elongated, with two very obtuse keels near the dorsal edge, somewhat beaked and slightly truncated: tooth in the flat valve small and blunt; hinge margin slightly arched, recurved.  $\frac{1}{17} \dots 1\frac{1}{2}$ .—*Europe.*

*P. OBLONGA.* *Sow. Sp. Con. f. 10.* Longer than *Rostrata*, thin: anterior side rather beaked, with two very obtuse keels and the hinge margin nearly straight; ligament and tooth of the flat valve very small.  $\frac{2}{37} \dots 1\frac{1}{2}$ .—*Gambroon.*

*P. DEPRESSA.* *Sow. Sp. Con. f. 11, 2.* Ovate, more depressed than the other species; anterior side dilated; valves nearly equally flat, two distinct teeth in the flatter, and one very large in the deeper: dorsal edge somewhat arched, slightly recurved.  $\frac{1}{4} \dots 1\frac{1}{2}$ .—*Pacific.*

*P. GLACIALIS.* *Leach. in Ross. voy.—Sow. Sp. Con. f. 4, 5, 6.* Nearly oval, dorsal edge nearly straight; posterior side rather produced, obtusely angular; beak nearer the centre than in *Obtusa*: tooth in the flat valve very small.  $\frac{1}{2}$ .—*North Seas.*

*P. FLEXUOSA.* *Sow. G.—Sow. Sp. Con. f. 1, 3, 4, 5.* Oblong, rather more gibbose than in general; anterior side elongated, sub-rostrated; ventral edge flexuous; dorsal bicarinated, rather arched and recurved: a rather short tooth, and an elongated, internal sub-marginal plate on the anterior side of the flatter valve.  $\frac{1}{10} \dots \frac{1}{10}$ .—*Red Sea.*

*P. UNGUITULUS.* *Sow. Sp. Con. f. 16, 7.* Oblong, rather depressed; anterior side narrower, rather produced, dorsal edge nearly straight with two obtuse keels from the umbo to the end of the beak: posterior side rounded or sub-truncated.  $\frac{3}{10}$ .—

*P. TRILINEATA.* *Say. in Journ. A. N. S. Phil. 2.—Conrad. Am. C. t. 11. f. 1.—P. NASUTA.* *Sow. Sp. Con. f. 18, 9.* Rather lengthened, deeper valve with a flexuous margin: anterior side of both valves beaked, their dorsal edge arched, recurved: posterior dorsal edge with a small projecting wing-like appendage: a distinct tooth and an internal elongated sub-marginal plate in the anterior side of the flatter valve; two obtuse rather obsolete ridges in both valves from the umbones along the anterior dorsal edge.  $\frac{1}{10} \dots 1\frac{1}{10}$ .—*N. America.*

*P. BREVIFRONS.* *Sow. Spec. Con. t. 2. f. 25, 6.* Elongated, very thin, white and hyaline; posterior side the shorter, rounded and sub-angulated dorsally: anterior side the longer, beaked and sub-truncated; dorsal edge straight, ventral rounded; a solitary and very small tooth in the flattened valve.  $\frac{1}{18}$ .—*Panama.*

*P. ARCUATA.* *Sow. Spec. Con. t. 2. f. 27, 8.* Ovate, thickish, opaque, pearly; posterior side the shorter, rounded, anterior beaked; dorsal edge arcuated, ventral rounded: an obsolete impressed groove running from the umbo to the ventral margin.  $\frac{1}{2} \dots 1$ .—*W. Columbia.*

*P. DISCORS.* *Sow. Spec. Con. t. 2. f. 29, 30.* Elliptic, depressed, whitish, opaque: posterior side the shorter, anterior broader:

dorsal edge anteriorly sub-arcuated, posteriorly rounded, ventral rounded, anteriorly ventricose; left valve anteriorly with radiating lines, a conspicuous keel near the anterior dorsal edge.  $\frac{2}{3} \dots \frac{1}{2}$ .

P. CEYLONICA. *Sow. Spec. Conc. t. 2. f. 20, 1, 2.* Elongated, depressed, sub-flexuous, anteriorly beaked, anterior dorsal edge arcuated and recurved, posteriorly dilated; two strong teeth and a marginal lamina in the flat valve, a single arched one in the other.  $\frac{2}{3} \dots \frac{1}{2}$ .—*Ceylon.*

P. RADIATA. *Sow. Spec. Con. t. 2. f. 23, 4.* Ovate, rather depressed, white with rufous linear rays on the flat valve; anterior side longer, sub-truncated and its dorsal edge straight, posterior side small; ventral margin rounded.  $\frac{7}{8} \dots \frac{1}{2}$ .—*W. Columbia.*

P. STRIATA. *Quoy. Ast. t. 83. f. 10.* Ovate-triangular, rather solid, with transverse plait-like striae, depressed, posteriorly obtuse, anteriorly sub-angulated; sub-equilateral; apex acute and emarginated.—*New Zealand.*

#### TRIBE LITHOPHAGI.

*Shells which bore into clay and other substances, without accessory valves or sheath, and more or less gaping at their anterior side; ligament external.*

#### SAXICAVA.

*Inequilateral, obtuse, and transverse; the anterior and ventral margin gaping; hinge nearly without teeth; ligament external.*

S. RUGOSA.\* *Lam. 1.—Sow. G.—Reeve. t. 50.—MYTILUS. R. Lin.?—D. p. 304. (part.)—W. t. 12. f. 9.* Ovate, obtuse at each end, anterior side at least twice as long as the posterior, the ventral edge incurved in the middle; dirty white, strong, coarse, with transverse wrinkles and the epidermis yellowish; beaks not terminal: if with two ridges on the anterior slope, the ridges very obscure.  $\frac{1}{2} \dots \frac{3}{4}$ .—*N. Europe.*<sup>1</sup>

S. PHOLADIS.\* *Lam. 3.—DISTORTA. Say.—Gould Mas. f. 40.—RUGOSA. Biv. t. 2. f. 10.—MYTILUS. R. D. p. 304. (part.)—Byss. P. ? Bl. t. 80. bis. f. 5.—Liss. t. 426. f. 267.* Oblong, anteriorly more or less truncated, (sometimes produced and attenuated, as often dilated,) posteriorly obtuse and the beaks subterminal, ventral edge nearly straight and not incurved; dirty white, strong, coarse, (the epidermis yellowish,) with concentric

<sup>1</sup> S. GALLICANA. *Lam. 2.* is a var. (fide Desh.) I doubt whether Pholadis is justly separated.

wrinkles, always with two rather prominent blunt ridges on the anterior slope.—*Var.* *S. PHOLADIS.* *Turt. Biv. t. 2. f. 11.* Oval rounded and somewhat open at both ends.  $\frac{1}{2}$ ..1.—*N. Europe.*—*Hiatella Arctica* closely resembles this species, but the incurvation of its ligamental edge distinguishes it.

*S. AUSTRALIS.* *Lam. 4.—Bl. t. 80. f. 4.* Ovate, turgid, transversely striated; anterior side subangulated by an oblique rib.—*Var.* Oblong, with varied transverse striæ. *S. VENERIFORMIS.* *Lam. 5.—New Holland.*<sup>1</sup>

*S. GUERINI.* *Desh.—Payr. t. 1. f. 6, 7, 8.* Transversely elongated, rather flattened, thin, transparent, yellowish-white, equi-valve, inequilateral, posterior side the longer, rounded: hinge with two teeth, pallear scar simple.—*Mediterranean.*

*S. TENUIS.* *Sow. Z. P. 1834.* Oblong, thin, white under a palish epidermis: posterior side short and subtruncated.  $\frac{2}{3}$ .. $\frac{1}{2}$ .—*Pacommoy.*

*S. CARDITOIDES.* *Con. Jour. A.N.S. Phil. 7. p. 255. t. 10. f. 8.* Oblong oval, anterior side much longer, its extremity direct, ligamental margin straight and parallel with the ventral, white with minute radiating lines: cardinal teeth prominent.  $1\frac{1}{2}$ .—*California.*

*S. SOLIDA.* *Sow. Z. P. 1834.* Oblong, solid, wrinkled, somewhat irregular, whitish under a corneous epidermis: posterior side very short, anterior elongated, truncated, with two conspicuous diverging ribs.  $\frac{1}{2}$ .. $1\frac{1}{2}$ .—*C. America.*

*S. PURPURASCENS.* *Sow. Z. P. 1834.* Oblong, rather solid, posteriorly very short, anteriorly truncated, epidermis very thin, anteriorly purplish.  $\frac{2}{3}$ .. $1\frac{1}{10}$ .—*W. Columbia.*

*S. CALIFORNICA.* *Con. Jour. A. N. S. Phil. 7. p. 256. t. 20. f. 9.* Ovate, elongated, white; anterior side much longer, sub-cuneiform, obtusely subtruncated; ventral edge incurved; posteriorly obliquely rounded; two distinct teeth in each valve. 1.—*California.*

#### PETRICOLA.

*Subtrigonal, transverse, inequilateral; posterior side rounded, and the anterior attenuated, and slightly gaping; hinge with two teeth in each valve, or in one valve only.*

*P. LAMELLATA.* *Lam. 1.—E. 3. p. 746.—Payr. p. 34.* Tri-

<sup>1</sup> Deshayes refers *CORBULA AUSTRALIS*, *Lam. 1.* to this species, but as both the figure of Blainville and the description of Lamarck seem at variance with this hypothesis, I prefix the Lamarckian characteristics... "Ovate, very inequilateral, slightly gaping at the sides; the posterior side very short, the anterior angular and more produced. (*Bl. t. 78. f. 3.*)"

angularly ovate, oblique; with transverse erect and reflected lamellæ: interstices very finely striated: two teeth in one valve and one in the other.  $\frac{1}{2}$ .—*Mediterranean*.

P. OCHROLEUCA.\* *Lam.* 2.—TELLINA FRAGILIS. *Lin.* 1117.—*D.* p. 78.—*Ch. f.* 84.—*Payr. t.* 1. *f.* 9, 10.—*Wood. sup. Tel. f.* 6. Thin, irregularly ovate, yellowish white, with rather distant transverse striæ and finer vertical ones in the interstices; two teeth in one valve and a heart-shaped one in the other.—*Mediterranean and European Seas*.

P. SEMILAMELLATA. *Lam.* 3.—*Del. t.* 4. *f.* 10. Small, semi-transparent, thin, white, triangularly ovate, anteriorly rather flexuous, with rather distant transverse grooves, the upper ones of which are lamellar, interstices longitudinally striated; two teeth in one valve and one in the other.—*Rochelle*.

P. LUCINALIS. *Lam.* 1.—VENUS DIVERGENS. *Gmel.* 3269.—*D.* p. 191.—*Ch. f.* 1666, 7.—*W. t.* 8. *f.* 73. Suborbicular, inflated, the ventral margin somewhat depressed, with transverse arched and other intervening variously curved striæ; two teeth in one valve and one in the other.—*New Holland*.

P. STRIATA. *Lam.* 5.—*Del. t.* 4. *f.* 11. Triangularly ovate, rounded at both ends, with close longitudinal grooves and a few transverse striæ; anterior side compressed; umbones prominent: two teeth in one valve and a cleft one in the other.—*Rochelle and Corsica*.

P. COSTELLATA. *Lam.* 6.—*Del. t.* 4. *f.* 12. Inflated, triangular, ovate, rounded at both ends, dirty white, with numerous longitudinal waved subacute rib-like striæ; a large and two small teeth in one valve.—*Mediterranean*.

P. ROCCELLARIA. *Lam.* 7.—*Del. t.* 4. *f.* 13.—*Poli. t.* 7. *f.* 14, 15.? Triangularly ovate, radiatingly wrinkled by longitudinal grooves, a few transverse striæ: hinge with two teeth in one valve and an obsolete one in the other.—*Rochelle and Mediterranean*.—*Closely resembling Striata, but not so elongated anteriorly*.

P. RUPERELLA. *Lam.* 9.—*E.* 3. *p.* 747.—*Del. t.* 4. *f.* 14. Ovate-triangular, the posterior side inflated and smooth, the anterior longitudinally wrinkled; two teeth in each valve, of which one, at least, is bifid.—*Rochelle*.—*Variety*, with longitudinal grooves.—*Bay of Naples*.—*Very like Striata, but ventrally sinuated*.

P. PHOLADIFORMIS. *Lam.* 11.—*Sow. G. f.* 1, 2.—*E. vol.* 3. *p.* 747.—*Reeve. t.* 51. *f.* 1.—*Gould. p.* 53.—P. FORNICATA. *Say.* Transversely elongated, white; the posterior side very short and covered with toothed lamellar longitudinal grooves; anterior side nearly smooth and slightly gaping; ventral margin slightly incurved: valves with two cardinal teeth.  $1\frac{1}{2}$ .—*Rhode Island*.

P. FABAGELLA. *Lam.* 12. Oval, decussated by fine longitudinal and transverse striæ.—*New Holland in Madreporos*.

*P. COSTATA*.<sup>1</sup> *Gray. Ann. Phil.* 25.—*VENUS LAPICIDA*. *Gmel.* 3269.—*D. p.* 190.—*Ch. f.* 1664, 5.—*W. t.* 8. *f.* 72. Ovate, somewhat heart-shaped, whitish, protuberant at the umbones; anteriorly with longitudinal grooves, posteriorly with unequal transverse striæ: hinge with two teeth in one valve, a bifid one in the other.  $1\frac{1}{2}$ .—*In coral in the W. Indies.*

*P. OBLONGA*. *Sow. Z. P.* 1834. Oblong-elliptic, palish, with radiating riblets: anterior dorsal edge straightish, with several concentric ridges which become smooth anteriorly.  $1\frac{1}{2}$ .—*Peru.*

*P. NIVEA*. *Gray. Ann. Phil.* 25.—*MYTILUS N.* *Gmel.* 3358.—*D. p.* 307.—*Ch. f.* 734.—*W. t.* 12. *f.* 16. Oblong, sub-diaphanous, rounded at both ends, snow-white, coarsely striated longitudinally, and the margin acute: within, glossy white.  $\frac{3}{4}$ ..  $1\frac{1}{4}$ .—*Nicobar Islands.*

*P. DACTYLUS*. *Sow. G. f.* 3.—*Gould. p.* 65. *f.* 41.—*Reeve. t.* 51. *f.* 3. Transversely elongated, very convex, rounded at both ends, concentrically wrinkled, and longitudinally ribbed at the short posterior extremity: white, the ventral margin rounded, the umbones tumid, and the anterior side very long: teeth, two in one valve, three in the other.  $\frac{3}{4}$ ..  $1\frac{1}{4}$ .—*N. America.*—*Bears a close resemblance to Chemnitz's figure of Nivea, but the localities are so widely apart as to sanction their separation.*

*P. RUGOSA*. *Sow. Z. P.* 1834. Oblong, pholas-shaped, whitish, with radiating riblets of very fine concentric striæ; the margins usually deformed.  $1\frac{1}{10}$ ..  $1\frac{1}{2}$ .—*Chili.*

*P. DENTICULATA*. *Sow. Z. P.* 1834. Oblong, pholas-shaped, palish, but internally stained with blackish brown on the extremities: posteriorly sub-rostrated, anteriorly rounded; dorsal edge nearly straight, ventral edge rather prominent: entirely covered with radiating grooves and concentric striæ, which posteriorly are sub-lamellar and denticulated.  $\frac{3}{4}$ ..  $1\frac{1}{10}$ .—*Peru.*—*Variety, shorter, and none of the striæ sub-lamellar or denticulated.*—*Isle of Plata.*

*P. TENUIS*. *Sow. Z. P.* 1834. Oblong, pholas-shaped, whitish, thin; with radiating riblets, which are stronger at the sides and are decussated by rugulose very fine striæ; posterior side very short.  $\frac{1}{10}$ .. 1.—*Peru.*

*P. AMYGDALINA*. *Sow. Z. P.* 1834. Thin, sub-hyaline, yellowish, obovate, smooth; posterior side very smooth and narrower; anterior longer, broader, with some distant raised lamellæ.  $\frac{3}{4}$ ..  $1\frac{1}{10}$ .—*Gallapagos.*

*P. ELLIPTICA*. *Sow. Z. P.* 1834. Ovate-elliptic, reddish

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<sup>1</sup> *P. LINGUATULA*, *Lam.* 13, bears so close a resemblance to *Saxicava Rugosa* as scarcely to deserve separation.



white, with radiating ribs, but anteriorly smooth; with scattered concentric lamellæ; lunule distinct.  $\frac{7}{8} \dots 1\frac{1}{2}$ .—*Peru*.

P. SOLIDA. *Sow. Z. P.* 1834. Sub-globose-elliptic, palish, the umbones and the extremities brownish violet, with radiating ribs but anteriorly smooth, the lines of growth sometimes sub-lamellar and anteriorly more prominent.  $1 \dots 1\frac{3}{4}$ .—*Peru*.

P. DISCORS. *Sow. Z. P.* 1834. Oblong-elliptic, brownish, with radiating acute riblets, but anteriorly smooth; dorsal edge straight.  $\frac{1}{2} \dots \frac{3}{4}$ .—*Peru*.

P. CONCINNA. *Sow. Z. P.* 1834. Oblong, pholas-shaped, whitish, with concentric riblets; posteriorly rounded, and longitudinally grooved; back sloping, with a smooth lamella on one of the valves: anteriorly rather acuminate, with crowded, concentric, ridge-like riblets.  $\frac{7}{8} \dots \frac{3}{4}$ .—*Mons. Christi*.

P. BIDENTATA.\* *Gray Ann. Phil.* 25.—MYA B. *Mont. t.* 26. f. 5. p. 99.—*D. p.* 45. Sub-oval, compressed, dirty-white: one valve with two broad flat distant diverging teeth, which project forwards obliquely, the other toothless, and having only a small cavity under the hinge.  $\frac{1}{2} \dots \frac{1}{2}$ .—*England*.

#### VENERUPIS.

*Transverse, inequilateral; posterior side short, the anterior one slightly gaping; hinge with two primary teeth in the right valve, and three in the left one, and sometimes with three in each; teeth small, approximated, parallel, and slightly divergent; ligament external.*

V. PERFORANS.\* *Lam.* 1.—VENUS P. *Mont. t.* 3. f. 6.—*Turt. B. t.* 2. f. 15 to 18.—*D. p.* 206.—*W. t.* 8. f. 108. Sub-rhomboidal, margins nearly parallel, with concentric striae, forming ridges at the sub-truncated anterior end, crossed by fine longitudinal ones, white or brownish, with purple zigzag stripes: hinge with two of the teeth cloven, syphon mark broad, and adjacent to the marginal impression.  $1 \dots 2\frac{1}{2}$ . rarely so large.—*England, &c.*

V. NUCLEUS. *Lam.* 2.—*Del. t.* 5. f. 1. Ovate, the extremities obtuse, smooth at the umbones, transversely striated; anterior side lamellar: three teeth in one valve and two in the other.  $\frac{1}{2}$ .—*Rochelle*.

V. IRUS. *Lam.* 3.—DONAX I. *Lin.* 1128.—*D. p.* 156.—*Ch. f.* 268, 9.—*Don. t.* 29. f. 2.—*W. t.* 6. f. 21. Sub-oval, variable in its outline, usually truncate, margin nearly parallel and straight, brownish white with elevated, concentric, distant, reflected ridges and longitudinal striae in the interstices.  $\frac{1}{2} \dots \frac{3}{4}$ .—*Mediterranean*.

V. EXOTICA. *Lam.* 4. Oval oblong, and the extremities obtuse,

with concentric ridges, the interstices transversely striated, and in parts sub-decussated.<sup>1</sup>  $\frac{3}{4}$ .

V. DISTANS. Lam. 5. Rhombic ovate, white, spotted with fulvous, finely striated longitudinally, a few distant transverse ridges. — *South Seas, Island of St. Peter and St. Francis.* — This and the preceding closely resemble V. Iru.

V. CRENATA. Lam. 6. — Del. t. 5. f. 2. Ovate, anteriorly rounded, fulvous white, with longitudinal and distant transverse grooves, which towards the margin are crenated and ridge-like; violet within.  $1\frac{1}{2}$ . — *New Holland.*

V. CARDITORDES. Lam. 7. — Del. t. 5. f. 3. Ovate-oblong and obtuse at the extremities, anteriorly narrower, whitish; girt with transverse ridges, the interstices longitudinally ribbed: within quite white.  $1\frac{3}{4}$ . — *New Holland.* Much resembling the last.

V. LAJONKAIRII. Pay. t. 10. f. 11, 12. — Desk. in Lam. 6. p. 164. Orbicular, sub-equilateral, gibbous, transversely grooved and longitudinally striated; beaks tumid, hooked and close: posterior depression somewhat heart-shaped. — *Cornica and Sicily.*

V. MONSTROSA. Gray. Ann. Phil. 25. — VESTUS M. Gmel. 3280. — D. p. 208. — Ch. f. 445, 6. — W. t. 3. f. 112. Oval, one valve larger than the other, dirty white internally, spotted with purple, decussated by the striae, rounded at both ends, but broader posteriorly.  $\frac{1}{2}$ ..  $1\frac{1}{4}$ . — *Nicobar Isles.*

## TRIBE NYMPHACEA.

*Never having more than two primary teeth in the same valve; often gaping at the lateral extremities: ligament external; nymphæ usually projecting outward.*

### SECTION.—N. SOLENARIA.

#### SANGUINOLARIA.

*Transverse, somewhat oval, slightly gaping at the lateral extremities; ventral margin arched, and not parallel to the dorsal one; hinge with two approximate teeth in each valve.*

S. OCCIDENS. Lam. 1. — SOLEN OCCIDENS. Lin. 3228. — D. p. 68. — E. t. 226. f. 2. — Ch. f. 61. — W. t. 3. f. 29. Nearly elliptic, one end rounded, the other very slightly truncated, rather

<sup>1</sup> We have figured the shell usually considered as this species, or vouching however for its identity.

ventricose, and beaks somewhat prominent; partially rayed, and spotted with red and white, and slightly striated concentrically: nymphæ prominent.  $2\frac{1}{4}..2$ .—*Tranquebar, Ceylon, and the Nicobar Isles.*

S. ROSEA. *Lam.* 2.—*Sow. G. f.* 1.—*Reeve. t.* 52. *f.* 1.—SOLENI SANGUINOLENTUS. *Gmel.* 3227.—*D. p.* 67.—*Ch. f.* 56.—*E. t.* 227. *f.* 1.—*W. t.* 3. *f.* 28. Sub-oval, rather convex, slightly produced and angulated at the anterior extremity, and rounded at the other; rose colour, becoming paler towards the margin, and nearly smooth.  $1\frac{1}{4}..2$ —*West Indies.*<sup>1</sup>

S. NUTTALLII. *Conr. Journ. A. N. S. Phil.* 230. *t.* 17. *f.* 6. Sub-ovate, thin, much compressed; anterior margin obliquely truncated, extremity angular; ventral margin regularly arcuated, beaks small, slightly prominent, distant from the posterior margin; ligament short and very prominent, nymphæ very prominent; whitish, with purple zones and rays, epidermis polished, and horn coloured, with paler spots and rays: teeth prominent, slender and fragile.  $1\frac{1}{4}..1\frac{3}{4}$ .—*U. California.*

S. CALIFORNIANA. *Conr. Journ. A. N. S. Phil.* 7. *p.* 231. *t.* 17. *f.* 7. Ovate, compressed, sub-equilateral, thin: fragile, dull, rosaceous, the anterior side much compressed, cuneiform.  $\frac{9}{10}..1\frac{1}{2}$ .—*U. California.*

S. BIRADIATA.—SOLENI. B. *Wood, G. C. p.* 135. *tab.* 33. *f.* 1.—*D. p.* 67.—*W. t.* 3. *f.* 26. Oval, sub-equilateral, rounded and gaping at both ends, livid purple, with two oblique white anterior rays; epidermis green: inside whitish, becoming pale orange by age, hinge with two teeth in each valve.

#### PSAMMOBIA.

*Transverse, elliptical, or oblong-ovate, flattened, slightly gaping at one side; beaks prominent; two primary teeth in the left valve, and one in the opposite one.*

P. RUGOSA. *Desh.*—SANGUINOLARIA R. *Lam.* 4.—VENUS DEFLORATA. *Lin.* 1133.—*W. t.* 8. *f.* 64.—*D. p.* 186.—*Mont. t.* 3. *f.* 4.—V. VERSICOLOR. *Gmel.* 3281.—V. PURPUREA. *Gm.* 3289.—*E. t.* 231. *f.* 3.—*Ch. f.* 79 to 83.—PSAMMOBIA R. *Sow. G. f.* 1.—*Reeve, t.* 53. *f.* 1. Ovate-oblong, ventricose, with strong longitudinal and fine transverse wrinkles, both becoming coarser at the anterior end which is generally more or less stained with purple: white, pale reddish, yellowish, or purple, and sometimes rayed with the latter colour.  $1\frac{1}{4}..2$ —*India and America.*

<sup>1</sup> S. LIVIDA, *Lam.* 3. and RUGOSA, *Lam.* 4. (having but a single tooth in one of the valves) belong to Psammobia.

*P. FERROKNEIS*.<sup>\*</sup> *Lam.* 2.—*Turt. B.* p. 14. c. 1. f. 1.—*TELLINA F.* *Gmel.* 3235.—*W.* t. 4. f. 31.—*D.* p. 77.—*V. LUGANATA.* *Pennant.* t. 47. f. 31.—*Lac.* t. 344. f. 24.—*V. ANATOLICA.* *Born.* t. 2. f. 5. Oblong, with indistinct concentric wrinkles, commencing on the flattened anterior slope, which is sub-truncated at its extremity, and defined by a slight elevation in both valves, dirty-white, with pink rays: beaks sub-central. 1½..2½.—*Niger Egypt.*

*P. VESPERTINA*.<sup>\*</sup> *Lam.* 3.—*SOLEA V.* *Gm.* 3220.—*W.* t. 3. f. 27.—*TELLINA DEPRESSA.* *Dm.* t. 4.—*I. ALBIDA.* *D.* p. 78.—*Ch.* f. 59, 60.—(young) *Turt. B.* t. 1. f. 19. Obovate, moderately thick, sub-equilateral, evenly angular, minutely slightly angulated; whitish or pale straw-coloured, rarely with pale reddish purple.—*Variety, from Venice, more of a white colour, with darker rays: violet within.* (*Born.* t. 2. f. 6. 1. 2. 3. 4.)—*Mediterranean and Atlantic.*<sup>1</sup>

*P. MACULOSA.* *Lam.* 5.—*E.* t. 220. f. 2.—*Sar. Egypt.* t. 1. f. 1. Oval-elliptic, with interrupted broad reddish broad rays on a paler round, mottled by white spots: the oblique sub-annulated transverse wrinkles almost become ridges at the angulated anterior extremity: inside tinged with lilac, the teeth strong, and the nymphæ violet.—*Tiger Bay, Africa.*

*P. CERULESCENS.* *Sor.* *G.* f. 3.—*Rome.* t. 53. f. 3.—*TELLINA GARI?* *Lir.* *Gmel.* 3229.—*AN. SOLEA ANETHETUS.* *D.* p. 68.—*W.* t. 3. f. 36. Oblong, hinge nearer to the posterior rounded than the anterior angulated extremity; reddish violet, with transverse concentric wrinkles, which are smoother at one end than at the other, and minute vertical lines seemingly under the outer surface: nymphæ prominent. 1½..2½.—*E. Indies.*—*Variety, with indistinct rays, and reddish violet within.—The fold is regular, and not like a Tellina.*

*P. ELONGATA.* *Lam.* 7.—*Del.* t. 5. f. 4.—*AN. Sar. Egypt.* t. 8. f. 2. ? Elongated ovate, ventral margin not much rounded, pale with light violet rays and bands; beaks fulvous and tumid; inside with a bluish anterior ray. 3.—*Red Sea.*

*P. FLAVICANS.* *Lam.* 8.—*Del.* t. 5. f. 5. Elliptic, not at all angular, yellowish-flesh-colour, finely striated transversely.—*Variety. SANGUICOLARIA LIVIDA.* (*Lam.*—*W. S.* t. 1. f. 3.) Semi-orbicular, thin, smooth, pale violet, with three white rays on the posterior side. 2½.—*New Holland.*

*P. ALBA.* *Lam.* 10. Oval, white, with indistinct rays, thin, minutely and transversely striated. "Closely resembling the last, of which perhaps it is only a strong variety."—(*DESH.*)

*P. SQUAMOSA.* *Lam.* 9.—*Del.* t. 5. f. 6. Elongated, oblong,

<sup>1</sup> *P. VIRGATA, Lam.* 1. and *FLORIDA, Lam.* 4. belong to this species. (*Deshayes*).

anteriorly slightly angular, violet, thin, with transverse wrinkles, and oblique wavy striæ, and posterior imbricated and scaly ribs.  $1\frac{1}{2}$ .—*India*. Bears some resemblance to *Cardium Bullatum*, (which also has its posterior margin crenulated,) but is rather smaller and narrower.

P. CAYENNENSIS. *Lam.* 11.—*Brug. Cat. mem. de la Soc. d'Hist. Nat.* p. 126.—*Del. t.* 5. *f.* 7. Oval, sub-equilateral, nearly smooth, anteriorly flexuous, white, posterior end rounded, anterior narrow and somewhat beaked.<sup>1</sup>—*Not unlike E. t.* 227. *f.* 1.

P. TELLINELLA.\* *Lam.* 13.—P. FLORIDA. *Turt. Biv. t.* 6. *f.* 9. Oblong, nearly smooth, thin, sub-equilateral, anteriorly obtusely angulated, posteriorly rounded, yellowish with either red interrupted rays or zones, but always with one small distinct posterior ray, which only proceeds a short distance from the beaks.  $\frac{3}{4}$ ... $\frac{1}{2}$ .—*British Channel*.

P. PULCHELLA. *Lam.* 14.—TELLINA GARI. *Ch. f.* 92.—*W. t.* 3. *f.* 6. Oval-oblong, thin, reddish violet, with elegant striæ, of which those on the anterior side differ from the rest, and are separated from them by an oblique angle.

P. FRAGILIS. *Lam.* 16.—*Del. t.* 5. *f.* 8. Oval-oblong, anteriorly sub-angulated, posteriorly attenuated, very brittle, thin, and transparent; reddish purple, obscurely rayed, with fine transverse striæ and minute vertical lines.  $1\frac{1}{2}$ .—*New Holland*.

P. GALATEA. *Lam.* 18. Elliptic, depressed, milk-white, reticulated by minute transverse and very oblique longitudinal striæ, except on the anterior side, which is smooth and obliquely truncated: white within.—*South Seas*.

P. ROSTRATA. *Desh.*—SOLENI R. *Lam.* 21.—S. DIPLOS. *D. p.* 63.—*Ch. f.* 53, 4.—*W. t.* 3. *f.* 21.—SANGUINOLARIA D. *Reeve.* 52. *f.* 2. Elongated, oblong, attenuated, beaked, and rather longer anteriorly, rounded posteriorly, smooth thin and brittle; violet with darker radiating shades, and sometimes white ones spreading obliquely from the hinge to the anterior margin: nymphæ prominent: violet within: hinge with two teeth in one valve, and a single one in the other.  $1\frac{1}{2}$ ... $3\frac{1}{2}$ .

P. LIVIDA. *Lam.* 17. Oblong, shining, livid flesh colour, transversely striated and marked with minute interrupted vertical lines; anterior end angulated, and its depression narrow and unequal.  $1\frac{1}{2}$ .—*New Holland*.

P. AURANTIA. *Lam.* 15.—GALEOMNA MAURITIANA. *Sow. G. f.* 4, 5.—*Reeve t.* 54. *f.* 4, 5. Ovate-oblong, nearly equilateral,

<sup>1</sup> P. LEVIGATA, *Lam.* 12, appears from the *Museum specimen* to be a *Tellina* akin to *Nymphalis*. I subjoin its characters—Ovate, white, with the beaks tinged with pink; smooth, posterior end the broadest and rounded, anterior narrower.  $\frac{1}{2}$ .

smooth and rather small, orange yellow, pellucid, gaping at the margin : hinge callous, pallear scar simple.  $\frac{1}{2}$ .—*Mauritius*.\*

P. VIOLACEA. *Desk. in E. vol. 3. p. 952*.—SOLEN V. *Law.* 20.—*Deles. t. 2. f. 5.* Oblong, with the extremities rounded, anteriorly narrower, both within and without violet with paler rays ; nymphæ prominent : hinge with an obsolete tooth in one valve, in the other a perfect and imperfect one. 3.—*Indian Ocean*,

P. COSTATA. *Nobis. in Z. P. 1842.* Sub-elliptical, anteriorly rather longer and angulated ; posteriorly narrowed and rounded at the extremity : dull, whitish, with livid rosy narrow rays, and most irregular crowded coarse transverse ribs, which often so unite on the anterior slope that one is formed from two : inside glossy purplish or yellowish, the rays distinct, the nymphæ purple. 1..1 $\frac{1}{2}$ .—*Australia*.—*Had not M. Deshayes assured us that the Virgata of Lamarck was merely a Ferroensis, we should have considered this shell to have been that species.*

P. COSTULATA.\* *Turt. Bic. t. 6. f. 8.*—P. DISCORS. *Phil. p. 23. t. 3. f. 8.* Oblong, posteriorly rounded and rather longer, anteriorly obtusely angulated, very thin, anterior slope only with radiating grooves, elsewhere nearly smooth, white with interrupted sub-radiating scarlet marks, and a short scarlet radiating streak proceeding posteriorly a little distance from the beaks.  $\frac{1}{2}$ ..1.—*Sicily, &c.*

P. LINEOLATA. *Gray in Yates New Zeal.* Oblong, transverse, compressed, obliquely truncated, anteriorly purplish rosy, with rather darker concentric belts of very thin anastomosing radiating lines.  $\frac{1}{2}$ ..1.—*New Zealand*.

P. VARIEGATA.—SOLEN V. *Wood. G. C. t. 34. f. 2. 3, 4.*—*D. p. 68.*—*W. t. 3. f. 32.* Ovate-oblong, anteriorly rather longer, sub-truncated, gaping ; thin, pellucid, rosy orange, with purple rays, which are stronger anteriorly, nearly smooth : hinge with two teeth in one valve, one in the other.  $\frac{1}{2}$ ..1.

P. CASTRENSIS.—SOLEN. C. *Chem. f. 1935, 6.*—*D. p. 66.*—*W. t. 3. f. 25.* Oval, rather longer and more obtuse anteriorly, very

\* This species belongs to the genus Galeomna, Turton, whose characters are as follows :—

#### GALEOMNA.

*Transverse, equilateral, equivalve, ventral margin widely gaping : gape oval-oblong ; hinge toothless, callous, with a small pit for a sub-internal ligament under the beaks ; two very small and very distant muscular impressions : pallear scar simple.*

G. TURTONI.\* *Zool. Jour. vol. 2. t. 13. f. 1.*—*Sow. G. f. 1. 2, 3.*—*Reeve. t. 54. f. 1, 2, 3.* Ovate-oblong, transverse, white, with very fine longitudinal waved striae ; hinge thickened, pallear scar simple and wrinkled.

smooth, pellucid, glossy, white with pink short broken zigzag lines; hinge with a single tooth.  $\frac{3}{4}$ . 1 $\frac{1}{4}$ .—*Guinea*.

P. PACIFICA. *Conr. Jour. A.N.S. Phil.* 7. p. 241. t. 18. f. 13. Sub-oval, convex, anteriorly rather shorter, margin direct and slightly arcuated; generally purple, with darker zones and two pale anterior rays, (sometimes white, pink, flesh or yellowish with purple rays,) with very obscure radiating lines.  $\frac{3}{4}$ .—*U. California*.<sup>1</sup>

#### PSAMMOTÆA.

*Transverse, ovate, or oblong-ovate; slightly gaping at the sides; a single primary tooth in each valve, (sometimes in one valve only;) without the irregular plait of the Tellinæ.*

P. VIOLACEA. *Lam.* 1.—*Bl.* t. 78. f. 2. Ovate-oblong, transversely striated, rather ventricose, violet with or without paler or even white rays. 1 $\frac{1}{4}$ .—*New Holland*. *Variety*, with purple rays on a white ground (P. SEROTINA. *Lam.* 5.—P. VIOL. *Sow. G. f.* 2.—*Reeve. t.* 53. f. 2.)—*E. Indies*.

P. ZONALIS. *Lam.* 2.—*Del.* t. 5. f. 9. Ovate oblong, sub-equilateral, ventrally but little rounded, anteriorly sub-angulated, posteriorly rounded, compressed, yellowish with indistinct livid bands and rays, with striæ of growth and anastomosing vertical lines. 1 $\frac{1}{4}$ .

P. PELLUCIDA. *Lam.* 4.—*Del.* t. 5. f. 10. Oval-oblong, depressed thin whitish, pellucid; the anterior side lanceolate, folded and sub-angulated: hinge with two teeth in one valve and none in the other. 1 $\frac{1}{4}$ .

P. CANDIDA. *Lam.* 6.—*Grif. Cuv. t.* 12. f. 10. Oval-oblong, thin, pellucid; with some radiating longitudinal and very fine transverse striæ; the anterior side very short and angular; the cardinal tooth of each valve cleft. 2.—*New Holland*.

P. TARENTINA. *Lam.* 7.—*Del.* t. 5. f. 11. Roundish-ovate, sub-depressed, rounded and shorter on the posterior side, whitish, decussated by fine arched transverse and extremely fine vertical striæ: beaks yellow. 1.—*Mediterranean*.—*Much resembling Tellina Solidula*.

P. DONACINA. *Lam.* 8.—*Del.* t. 5. f. 12. Ovate, sub-depressed, anteriorly narrower shorter and sub-angulated, whitish with distant purplish red rays and elegant fine transverse striæ: inside rich yellow.  $\frac{3}{4}$ .—*Europe?*

P. ROSEA.—SOLENI R.—*Gmel.* 3227.—*D.* p. 66.—*Ch. f.* 55.—*W. t.* 3. f. 23. Oblong-elliptical, anteriorly longer, twice as broad as long, under a green epidermis pink flesh colour within and without, smooth, rounded at both ends, ventral edge nearly straight; hinge with a somewhat bifid tooth inserted into a cavity in the opposite valve. 2.—*Red Sea*.

<sup>1</sup> See too *TESTACEOUS MOLLUSCA* of Turton, (*TESTACEA* L. *Mont.* t. 28. f. 3.—*W. t.* 4. f. 65.), which we have copied.

SECTION.—N. TELLINARIA.

\* *With one or two lateral teeth.*

TELLINA.

*Transverse or orbicular, generally flattened; the anterior side angular, a flexuous irregular plait on the margin; with one or two primary teeth in the same valve, and usually two lateral teeth, frequently remote; ligament external.*

\* *Transversely oblong.*

T. *RADIATA*. *Lin.* 1117.—*D.* p. 83.—*Lam.* 1.—*Sow. G.*—*Ch. f.* 100 & 102.—*E. t.* 289. *f.* 2.—*Reeve. t.* 55. *f.* 1.—*W. t.* 4. *f.* 26. Oblong, smooth, polished, with very delicate longitudinal striæ and red rays, on a white ground; hinge nearer the anterior extremity, which is somewhat beaked and inflected.  $1\frac{1}{2}$ .  $2\frac{1}{2}$ .—*Europe & West Indies*.—(UNIMACULATA. *Lam.* 2.—*E. t.* 289. *f.* 3.)—*Variety*, without the rays, but the beaks tinged with rose colour.

T. *SEMIZONALIS*. *Lam.* 3.—*Del. t.* 6. *f.* 1. Oblong, narrow, with extremely delicate longitudinal striæ, very pale violet, and somewhat zoned: within reddish-purple, with two very oblique indistinct white rays at the anterior extremity.—*Resembles Unimaculata*.

T. *MACULOSA*. *Lam.* 4.—T. *INTERRUPTA*. *D.* p. 75.—*E. t.* 288. *f.* 7.—*W. t.* 3. *f.* 4. Oblong, sub-equilateral, rough with transverse raised striæ, with chesnut purplish-red or tawny letter-like linear markings disposed radiatingly on a white ground: anterior end beaked and its slope lamellar, posteriorly rounded: two lateral teeth.  $1\frac{1}{2}$ .  $2\frac{1}{2}$ .—*W. Indies*.—*Broader than the next*.

T. *VIRGATA*. *Lin.* 1116.—*D.* p. 74.—*Lam.* 5.—*E. t.* 288. *f.* 2.—*Ch. f.* 67 & 72.—*Wood. G. C. t.* 35. *f.* 1.—*W. t.* 3. *f.* 3. Ovate-oblong, equilateral, somewhat beaked and angulated at the anterior extremity, and rough with transverse striæ; variable in colour, being yellow with paler transverse bands and rosy rays, white with red rays or vice versa. *An. var.?* (*Ch. f.* 68.—*E. t.* 288. *f.* 4.—T. *MARGINALIS*. *D.* p. 74.) Longer in proportion, and the striæ less coarse.  $1\frac{3}{8}$ .  $2\frac{3}{8}$ .—*India*.

T. *STAURELLA*. *Lam.* 6.—*Ch. f.* 66. Oval, angulated and shorter anteriorly where the transverse striæ become rough and elevated; yellow within and without, the beaks usually adorned with a purplish-crimson cross, and incipient rays.—*Variety*, without the rays.—*Variety*, (*Del. t.* 6. *f.* 2.), without the cross and but slightly rayed.  $1\frac{1}{2}$ . 2.—*New Holland*.

T. *CRUCIGERA*. *Lam.* 7. Ovate-oblong, somewhat beaked and



CARNATA. *Poli.* 1. t. 15. f. 1. Oval-oblong, sub-inequilateral, pointed at the rather shorter anterior extremity, flat, pinkish flesh colour, with two paler anterior rays, finely striated concentrically: hinge with two cardinal and one lateral tooth in one valve; one cardinal in the other. 1..2.—*Mediterranean*.

T. PULCHELLA. *Lam.* 23.—*Born.* t. 2. f. 10.—*Poli.* 1. t. 15. f. 8.—*W. S. t.* 1. f. 4. Small, ovate-oblong, depressed, shining, narrow, pale with numerous rosy rays and fine transverse striæ: anterior extremity beaked and rather shorter: hinge with at least one lateral tooth.—*Mediterranean, Gulf of Tarentum*.

T. FABULA.\* *Gmel.* 3239.—*D.* p. 92.—*Lam.* 24.—*Don.* t. 97.—*Turt. B. p.* 101.—*W. t.* 3. f. 23.—*Wood. G. C. t.* 45. f. 4. Ovate, posteriorly rounded, anteriorly contracted; thin, glossy, white, one of the valves obliquely striated the other smooth: hinge with a single tooth and minute adjacent denticle in one valve, in the other two with a rounded lateral one.  $\frac{1}{2}$ .. $\frac{3}{4}$ .—*N. Europe*.<sup>3</sup>

T. TENUIS.\* *Lam.* 25.—*Dor. Cat. t.* 5. f. 3.—*Turt. B. p.* 107.—*Wood. G. C. t.* 44. f. 3, 4.—*List. t.* 405. f. 251.—*Ch. f.* 117.—*Don.* t. 19. f. 2.—*W. t.* 3. f. 22.—T. BALAUSTINA. *D. p.* 93. Ovate-triangular, rather truncated and angular at the anterior extremity, reddish with generally deeper bands, thin, rather flat, nearly smooth and polished.—*England, &c.*

T. EXILIS. *Lam.* 26.—*E.* 3. p. 1013.—*Del. t.* 6. f. 6. Ovate-triangular, very thin flattened and pellucid, pale crimson, with very fine transverse striæ, and obtusely angular at the short and oblique anterior extremity: no lateral teeth.  $\frac{1}{2}$ .

T. DONACINA.\* *Lin.* 1118.—*D. p.* 89.—*Lam.* 27.—*Turt. B. p.* 102. t. 8. f. 4.—*W. t.* 4. f. 31.—*Mont. t.* 27. f. 3.—T. VARI-GATA. *Poli.* 1. t. 15. f. 10. Oval with the beaks close to the anterior extremity, which being abruptly sloped puts on the appearance of a Donax, finely striated concentrically, semi-transparent, yellowish within and without with red often interrupted rays: hinge in one valve with a bifid cardinal tooth, an additional simple one and lateral teeth on each side in the other.—*Mediterranean, &c.*

T. NITIDA.—*Poli.* 1. t. 15. f. 2. 34.—*Lam.* 28.—*Phil. p.* 27.—*Gual. t.* 77. Oblong, very compressed, equilateral, anteriorly narrowed, polished, pale flesh-colour with tawny zones, ligamental edge straight, with delicate and regular transverse striæ, anteriorly in one valve, with coarse and distant ones: inside tawny orange, no lateral teeth, a single bifid cardinal in one valve, a bifid and simple smaller one in the other.  $1\frac{2}{3}$ .—*Mediterranean*.—*Variety*, whitish or sulphur-coloured.

<sup>3</sup> We have given a copy of the FRAGILLISSIMA of Ch. f. 101. the Vitrea of Gmelin (*D. p.* 92.) which bears much resemblance in shape to this species, but has no lateral tooth.

**T. SCALARIS.** *Lam.* 29. Ovate; rather compressed, yellowish white, with elegant transverse striæ; anterior side the shorter and sub-biangulated.  $1\frac{1}{2}$ .—*In shape and striæ not unlike the fossil* *Scalaroides*. (*An. du Mus.* vol. 7. t. 41. f. 7.)

**T. PSAMMOTELLA.** *Lam.* 30.—*Ch. f.* 87? Ovate, with very fine transverse striæ, and angulated and sinuated on the anterior side which is the shorter one; whitish with the beaks rosy and the interior imperfectly and unequally rayed with orange and purple or rose colour.  $1\frac{1}{2}$ .—*not unlike Ch.* 1654.<sup>1</sup>

**T. LANTIVVII.** *Payr. Cat. t. 1. f.* 13, 4. Small, ovate-triangular, thin, compressed, white, pellucid, shining, very inequilateral, with elegant transverse striæ: posterior side the longer and rounded, anterior shortened and angulated.—*Corsica*.

**T. OUDARDI.** *Payr. Cat. t. 1. f.* 16, 7, 8. Oval compressed, shining, pellucid, red within and without, obliquely cancellated and adorned by transverse white lines and rather small longitudinal red ones, and with reddish yellow rays at both extremities.—*Corsica*.

**T. CLATHRATA.** *Quoy. Ast. t. 81. f.* 4, 5, 6, 7. Small oblong transverse inequilateral, posterior side the shorter and truncated; thin, fragile, white rosy or red with a kind of lattice work composed of oblique and transverse striæ; posterior sinus scarcely evident.—*South Seas*.—*Not unlike Fabula, but the oblique striæ are on both valves*.

**T. POLITA.** *Say. Jour. A. N. S. Phil. 2. p.* 276. Sub-triangular, white, minutely wrinkled concentrically; anterior side rather shorter, its dorsal edge sloping in a straightish line to a sub-acute termination; ventral edge nearly straight from behind the middle to the anterior end, a lateral posterior tooth.  $\frac{2}{3}$ .. $\frac{1}{2}$ .—*South Carolina, &c.*

**T. TENERA.** *Say. Jour. A. N. S. Phil. 2. p.* 303.—*Gould. M. f.* 44. Oblong, sub-oval, longer posteriorly, very thin, pellucid, compressed, whitish, iridescent, concentrically wrinkled, the ventral edge arcuated; cardinal teeth two, the larger one emarginate, the posterior tooth little elevated, anterior obsolete.  $\frac{2}{3}$ .. $\frac{1}{2}$ .—*New Jersey*.

**T. TENTA.** *Say. Am. C. t. 65. f.* 3.—*Gould. Mas. p.* 68. f. 43. Small, thin, oval, white, shining, not polished, shorter and narrowed anteriorly, but rounded and obtuse at the tip, ligamental

<sup>1</sup> Allied to, if not identical with this, is the *T. OBLONGA*. *Gmelin.* 3234.—*Chemnitz. f.* 87.—*D. p.* 80. Oblong, smooth, thin, convex, whitish with a tinge of orange which is strongest near the umbones; posteriorly rather longer, rounded; anteriorly obtusely angulated, with a distinct flexure ending in a sinus at the margin: ventral edge little arcuated; inside pale orange, hinge with a bifid and a narrow simple cardinal tooth in each valve: no lateral teeth.  $\frac{2}{3}$ .. $1\frac{1}{2}$ .—*S. America?*

edge curvilinear ; valves very but unequally convex, nearly smooth ; inside yellowish white, covered with radiating lines finely indenting the edge : ligament minute : hinge with two diverging cardinal teeth and an anterior lateral in one valve, a single cardinal in the other.

T. IRIS. *Say. Jour. A. N. S. Phil.* 2 p. 302. Oblong-sub-oval, very thin, pellucid, compressed, irridescent, white with generally a rosy disc and one or two anterior rays, with numerous minute concentric wrinkles and minute oblique strong equidistant striæ, which are abbreviated before and do not reach the narrowed and sub-acute anterior end : ventral edge straight opposite the beaks.  $\frac{3}{8} \dots \frac{1}{2}$ .—*U. States.*

T. ALTERNATA. *Say. Jour. A. N. S. Phil.* 2. p. 275.—*Say. Am. C. t.* 65. f. 1. Oblong, compressed narrowed and angulated anteriorly ; white with numerous parallel equal equidistant transverse striæ which are alternately obsolete on the anterior margin ; anterior dorsal edge sloping somewhat concavely to an obliquely truncated tip, inside tinged with yellow : anterior cardinal tooth emarginate, with lateral teeth, the posterior one approximate.  $1\frac{1}{4} \dots 2\frac{1}{2}$ .—*U. States.*

T. CRYSTALLINA. *Chemnitz. f.* 1948.—*W. t.* 3. f. 10. Inequivalve, one valve flat, the other convex ; triangular-ovate, thin, white with raised distant concentric striæ, the ventral edge rounded : anterior dorsal edge nearly straight and sloping, posteriorly rounded and rather the longer : a strongly marked fold in one valve, a corresponding indentation in the other : slopes incurved : two lateral teeth in the flat valve.  $\frac{3}{4} \dots 1$ .—*Allied to Belcheri.*

T. SORDIDA. *Couthouy. Bost. J. of N. H.* 2. tab. 3. f. 11.—*SANGUI. S. Gould. p.* 67.—Oval compressed, whitish under a horn-coloured epidermis, lines of growth numerous and distinct, posteriorly rounded, anteriorly shorter and slightly angular : within, semi-irridescent milk-white, hinge with a simple and bifid primary tooth in one valve, teeth usually obsolete in the other, a distant inconspicuous lateral tooth in each.  $\frac{1}{2} \dots \frac{3}{4}$ .—*Boston.*

T. SERRATA. *Phil. p.* 25.—*Costa. p.* xvii. no. 8.—T. SULCATA. *W. G. C. t.* 47. f. 1.—*D. p.* 89.—*W. t.* 4. f. 63. Ovate-triangular, equilateral, thick, dorsal edges nearly straight in their slopes ; anteriorly angulated, whitish but milk-white within, with raised transverse striæ which become lamellar at the angle which bounds the hollow anterior slope which is smooth and narrow : two cardinal and two lateral teeth in one valve, two cardinal only in the other.  $1\frac{1}{4} \dots 1\frac{1}{2}$ .—*Mediterranean.*

T. CALCAREA. *Chem. f.* 135.—*D. t.* 93.—*W. t.* 4. f. 43. Ovate, very brittle, white, glabrous, shorter slightly sub-angulated and inflected anteriorly, narrower and rounded posteriorly : a rounded cleft tooth in one valve shutting into a cavity in the other.  $\frac{3}{4} \dots 1\frac{1}{2}$ .—*Iceland.*

**T. LUTEA.** *Gray in W. S. t. 1. f. 3.* **T. GUILFORDIANA.** *Grif. Cuv. Mol. t. 19. f. 2.—T. ALTERNIDENTATA. Brod. Z. J. 4.—Beechey. 3. t. 44. f. 5.?* Ovate-oblong, anteriorly obtusely cuneiform and longer, the fold indistinct; compressed, white stained interiorly with orange, with raised transverse rib-like striæ: ligament very large, cardinal teeth indistinct, no lateral ones.  $1\frac{1}{2}..2\frac{1}{2}$ .

**T. ACUTA.** *Wood. G. C. t. 44. f. 1.—D. p. 81.—W. t. 3. f. 25.* Oval, compressed, thin, anteriorly much shorter and cuneiform, posteriorly rounded, very finely striated longitudinally, white with a tinge of yellow near the apex but not perceptibly rayed, ventral edge nearly straight, margins acute: hinge with two teeth in one valve, one in the other, but one lateral tooth.  $2..3\frac{1}{2}$ .—*W. Indies.*

**T. SEGTA.** *Con. Jour. A. N. S. Phil. 7. p. 257.* Triangular or sub-elliptical, equilateral compressed, with a very thin shining yellowish epidermis: umbonal slope angulated: anteriorly broadly and obliquely truncated; cartilage short, thick, inserted on an elongated oblique rib-like callus: margin beneath the cartilage with an ovate gape, appearing as if cut or broken, white within and without.  $1\frac{1}{2}..2$ .—*U. California.*

**T. PULCHERRIMA.** *Sow. Tank. t. 1. f. 1.* Transversely oblong, rounded posteriorly and sharply angulated anteriorly, whitish with rosy rays; ventral surface nearly smooth and obliquely striated; the extremities roughened by concentric rows of scales; within orange colour.  $1\frac{1}{2}..3$ .

**T. SANGUINEA.** *Wood. G. C. t. 44. f. 2.—D. p. 88.—W. t. 4. f. 27.* Oblong, acutely angulated, anteriorly sub-equilateral, rosy red, with strong transverse and almost imperceptible longitudinal striæ; paler within, with two teeth in one valve and one in the other, besides sharp-pointed lateral ones.  $\frac{3}{4}..1\frac{1}{2}$ .

**T. LANCEOLATA.** *Gmel. 3236.—D. p. 88.—Wood. G. C. t. 45. f. 2.—Ch. f. 103.—W. t. 4. f. 40.* Oblong, thin, breadth double the length, sub-equilateral, pellucid, compressed, anteriorly acuminate; finely striated transversely, uniform white or pink, no lateral teeth in one valve; inside with two oblique radiating anterior riblets, one very indistinct.  $\frac{3}{4}..1\frac{1}{2}$ .—*India.*

**T. HYALINA.** *Gmel. 3235.—D. p. 85.—Ch. f. 99.—W. t. 4. f. 39.*—Elongated oval, inequivalve, white, brittle, pellucid, compressed; anterior side attenuated and twice as long as the posterior, rounded at both ends, margins very acute: no lateral teeth.  $1\frac{1}{2}..2\frac{1}{2}$ .—*Guinea.*

\* \* Orbicular or rounded ovate.

**T. REMIES.** *Lin. 1119.—D. p. 94.—Wood. G. C. t. 38. f. 1.—W. t. 4. f. 69.—T. SULCATA. Lam. 32.—Rum. t. 42. f. 1.—Ch. f. 113.—E. t. 290. f. 3.—T. CONVEXA. W. S. t. 1. f. 2.*

Sub-orbicular, slightly convex, white, with the beaks smooth and the rest of the surface covered with transverse undulated ridges, rather inflected and angulated on the anterior side: hinge with two teeth in one valve and one in the other, besides two strong lateral teeth of which the anterior one is much more remote.—*Variety*, with obsolete rufous bands. Diam.  $2\frac{1}{2}$ .—*India*.

\* T. CRASSA. *Pennant*. 4. t. 48. f. 28.—*Gmel*. 3288.—*D.* p. 96.—*E.* t. 291. f. 5.—*W.* t. 4. f. 75.—*Lam.* 35.—*List.* t. 299. f. 136.—*Turt. Biv.* t. 7. f. 2.—Roundish, thick, heavy, semi-transparent, with one valve less convex than the other, anteriorly shorter; white or yellowish, (with usually reddish rays,) crowded with transverse furrows which are coarser posteriorly, the beaks frequently stained with pink, within yellowish, a simple and bifid tooth in each valve besides two lateral teeth in one of the valves.  $1\frac{1}{2}$  . . 2.—*Europe*.<sup>1</sup>

T. FAUSTA. *Dil.* p. 94.—T. REMIES. *Lam.* 31.—*Born.* t. 2. f. 11.—*List.* t. 266. f. 102.—*Ch.* f. 112.—*E.* t. 290. f. 2.—T. LÆVIS. *Wood. G. C.* t. 37. f. 1.—*W.* t. 4. f. 68. Roundish ovate, posteriorly slightly longer and rounded, anterior edge sloping, anterior side slightly inflected and obtusely truncated at the tip: white, strong, finely but regularly striated transversely, but smooth at the beaks, marked with anastomosing fine interrupted radiating lines, ventral edge arcuated: inside tinged with yellow, a cleft and a narrow simple cardinal tooth in one valve, the latter scarcely rudimentary in the other, a distant and an approximated lateral in each. 2 . .  $2\frac{1}{2}$ .—*W. Indies*.<sup>2</sup>

T. SCOBINATA. *Lin.* 1119.—*D.* p. 98.—*Lam.* 34.—*List.* t. 302. f. 143.—*F.* t. 291. f. 4.—*Ch.* f. 122, 3, 4.—*Reeve.* t. 55. f. 2.—*Sow. G.*—*W.* t. 7. f. 67.—*Wood. G. C.* t. 35. f. 1. Sub-orbicular, slightly inflected and angular anteriorly, whitish, roughened with lunate scales disposed in quineunxes and enlarged in size as they recede from the beaks, and usually with a few brown or ferruginous scattered spots, sometimes forming rays; hinge central, with bifid cardinal teeth and strong lateral ones in each valve. Diameter up to  $3\frac{1}{2}$ .—*Indian Ocean*.

T. LEVIGATA. *Lin.* p. 103.—*D.* p. 82.—*Lam.* 36.—*Ch.* f. 111.—*Wood. G. C.* t. 41. f. 1.—*W.* t. 4. f. 29.—Roundish-ovate, with concentric striae becoming obsolete on the disc, whitish with tawny orange rays and the ventral margin tinged with the

<sup>1</sup> When the minute longitudinal striae in the interstices are more evident, and the rays absent, it forms the *Reticulata* of British authors, but not of Linnæus.

<sup>2</sup> *STRIATULARIS*, *Lam.* 33, is apparently a young shell with the rudimentary tooth quite obsolete.

same colour; nymphæ inflected; within white with a tinge of citron at each extremity: hinge with two cardinal teeth in each valve and the lateral teeth approximate.  $2 \dots 2\frac{1}{2}$ . Young and more oblong.—(CHLOROLEUCA. *Lam.*)—*European and Indian Seas.*

T. LINGUA-FELIS. *Lin.* 1116.—*D. p.* 73.—*Lam.* 37.—*E. t.* 289. *f.* 6.—*Ch. f.* 65.—*Wood. G. C. t.* 40. *f.* 2, 3.—*W. t.* 3. *f.* 2. Roundish ovate, with the anterior extremity very obtuse; roughened by lunated scales disposed in quineunxes and rayed with pale pink on a whitish ground; beaks pink.  $1\frac{1}{2} \dots 1\frac{3}{4}$ .—*India.*

T. RUGOSA. *Born. t.* 2. *f.* 3, 4.—*D. p.* 73.—*Lam.* 38.—*Wood. G. C. t.* 41. *f.* 2, 3.—*E. t.* 290. *f.* 1.—*Ch. f.* 62.—*W. t.* 3. *f.* 8. Roundish-ovate, anteriorly attenuated and inflected, with transverse undulated membranaceous wrinkles, white tinged with yellow at the beaks; inside white; hinge with a cleft and plain tooth in one valve, and two plain with strong lateral ones in the other.—*New Holland.*

T. LACUNOSA. *Lam.* 39.—*D. p.* 76.—*W. t.* 3. *f.* 12.—

T. PAPYRACEA. *Gmel.* 3231.—*E. t.* 290. *f.* 14.—*Ch. f.* 78. Roundish-ovate, rounded at one end and sub-truncated at the other, whitish, thin, ventricose and transversely striated; the ventral margin depressed in the middle, with a sinuous twist.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Guinea.*

T. GARGADIA. *Lin.* 1116.—*D. p.* 72.—*Ch. f.* 63, 4.—*Lam.* 40.—*W. t.* 3. *f.* 1. Roundish-ovate, compressed, cartilage slope toothed, transversely and undulatingly wrinkled on the anterior side and towards the ventral margin.  $1\frac{1}{2} \dots 1\frac{3}{4}$ .—*Nicobar Isles.*

T. PRISTIS. *Lam.* 41.—*E. t.* 287. *f.* 1.—White, roundish-ovate, anteriorly angulated and shorter, with sub-imbricated transverse, and minute radiating striæ, the former becoming fine ridges on the obliquely truncated anterior slope, whose depression is lanceolate and concave, and its edge seemingly toothed; hinge with a bifid and lamellar tooth in each valve besides lateral ones.  $1\frac{1}{2}$ .—*Indian Ocean.*

T. POLYGONA.—*Chem. f.* 77.—*D. p.* 76.—*W. t.* 3. *f.* 11.—

MULTANGULA. *Lam.* 42.—*Gmel.* 3230. Ovate broadly triangular, the anterior side the longer, sinuous, and almost biangular; white with the beaks and margin yellowish, transversely striated and somewhat decussated towards the margin: hinge with a single cleft cardinal tooth in one valve and two in the other, no lateral teeth.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Tranquebar.*

T. GUINAIKA. *Chem. f.* 1651, 2, 3.—*D. p.* 96.—T. POLYGONA. *Lam.* 43.—*Gmel.* 3244.—*Mont. t.* 28. *f.* 4.—*W. t.* 4. *f.* 80. Roundish-ovate, somewhat triangular, flexuous and sinuated at the ventral margin, white with the beaks and interior tinged with pale orange, transversely striated; hinge with two large cardinal teeth in one valve and a large triangular cleft one, with an approxi-

mate smaller one in the other, no lateral teeth.  $\frac{1}{2}$  . .  $\frac{3}{4}$ .—*England?*  
—*Guinea.*—(*Foreign specimens larger.*)

T. CAPSOIDES. *Lam.* 44. Broadly triangular, sub-equilateral, with transverse striæ somewhat decussated by vertical ones, white: the angle of the anterior side with two grooves: no lateral teeth.  $1\frac{1}{2}$ .—*Isle of St. Peter and St. Francis.*—*Not unlike Polygona.*

T. DECUSSATA. *Lam.* 45. Rounded triangular, white with the beaks yellowish and nearly smooth, nearly equilateral, decussated by transverse striæ and vertical grooves: hinge with lateral teeth.—*New Holland.*

T. BRASILIANA.\* *Lam.* 46.—LINEATA. *Turt. Biv. p.* 99. *t.* 7. *f.* 1. Triangularly oval, anteriorly angulated, thin, white usually tinged with rose-colour, nearly smooth, an oblique purplish rosy stripe (visible also in the interior) running from the beaks to the slightly longer posterior extremity: one valve with two cardinal and two lateral teeth, a single cleft cardinal tooth in the other.  $\frac{3}{4}$  . .  $\frac{1}{2}$ .—*Rio Janeiro.*—*Approximating to Tenuis in shape.*

T. OBLIQUA. *Lam.* 47.—*An. T. MADAGASCARIENSIS.* *Gmel.* 3237. ?.—*D. p.* 82. ?.—*List. t.* 386. *f.* 233.—*Wood. G. C. t.* 39. *f.* 3. ?.—*W. t.* 4. *f.* 46. ? Triangularly oval, the anterior side the longer and obliquely attenuated, posterior very short and rounded; greyish, compressed and very finely striated transversely. 2.—*Madagascar.*—*Inflection of the anterior side and margin scarcely apparent.*

T. UMBONELLA. *Lam.* 48. Small, subtriangular, convex, with the anterior side the shorter, and slightly angular, whitish with the beaks hyaline, sub-antiquated, the transverse striæ very fine.  $1\frac{1}{2}$ .—*New Holland.*

T. DELTOIDALIS. *Lam.* 49.—*Del. t.* 6. *f.* 7. T. LACTEA. *Ast. t.* 81. *f.* 14, 5, 6. Rounded, ovate, dirty white, compressed and transversely striated; the anterior side obliquely attenuated and inflected; one of the valves grooved; hinge sub-central, with lateral teeth.—*Variety.* With the striæ very elegant and the anterior side scarcely inflected.  $1\frac{1}{2}$ .—*New Holland.*

T. NYMPHALIS. *Lam.* 50. Roundish-ovate, anterior side obliquely attenuated angulated and grooved, the posterior rounded and broad; whitish with transverse striæ towards the ventral margin, beaks smooth; nymphæ internal, dilated: hinge with very unequal cardinal teeth in one valve and a single one in the other, no lateral teeth.  $1\frac{1}{2}$ .—*Guinea.*

T. SOLIDULA.\* *Lam.* 51.—*W. t.* 4. *f.* 84.—*Wood. G. C. t.* 46. *f.* 2.—T. ZONATA.—*Gmel.* 3238.—*D. p.* 100.—*Lis. t.* 405. *f.* 250.—T. RUBRA. *Da Costa. t.* 12. *f.* 4.—PSAMMOBIA S. *Turt. B. p.* 95. *t.* 8. *f.* 2. Rounded triangular, thick, ventricose somewhat angulated and compressed anteriorly, passing from white into yellow or pink with darker bands and obsolete ridges of growth r

hinge nearly central, with two small indistinct cardinal teeth in each valve, and no lateral.  $\frac{2}{3}$ .. $\frac{1}{2}$ .—*W. Europe*.

*T. BIMACULATA*. \* *Lis.* 1120.—*D. p.* 104.—*Lam.* 52.—*Ch.* f. 127.—*E. t.* 290. f. 9.—*Don. t.* 19. f. 1.—*Turt. B. p.* 134.—*Wood. G. C. t.* 45. f. 6.—*W. t.* 4. f. 53. Triangularly rounded, broad, smooth, whitish with two oblong crimson spots on the inside; lateral teeth in both valves.—*Variety*. Pale violet without the spots. (*Ch. f.* 132. a.)—*Var.* Uniform orange.—*Var.* Orange with interrupted linear purple rays.—*Var.* Pink with the two spots.—*Var.* Uniform pink. Hinge with two lateral teeth in both valves.  $\frac{2}{3}$ .—*W. Indies*.

*T. SEXRADIATA*. \* *Lam.* 53.—*T. BIMACULATA variety*. *D. p.* 101.—*E. t.* 290. f. 10.—*Ch. f.* 132. b. Triangularly rounded inequilateral, whitish, with six brownish blue somewhat interrupted rays: darker within.—*Variety*. With violet screw-threaded spots disposed in rays.—(*Turt. B. t.* 5. f. 5.  $\frac{2}{3}$ .. $\frac{1}{2}$ .—*W. Indies*.)

*T. OSTRACEA*. *Lam.* 54.—*E. t.* 290. f. 13. Renovarian-*ostr.*, thin, flattened, whitish grey, with transverse striae, which are fine at the beaks and coarse and ridge-like at the margin: anterior side truncated, and with two folds.—*Size of T. TENUIA*.—*India*.

*T. LATA*. *Quoy. Atl. t.* 51. f. 5, 9, 10. *Ostra*, broad, depressed, inequilateral, posterior side the shorter angulated, transversely striated; white with elegant interrupted rays of red; beaks acute and purple; margin with alternate white and red spots; yellow within.—*South Seas*.

*T. NASUTA*. *Con. Jour. A. N. S. Phil.* 7. p. 254. *Ostra*, compressed, smooth, dull, posteriorly dilated; anterior side coniform, extremity truncated, much above the line of the ventral edge: fold carinated on the upper valve; beaks central, slightly prominent; epidermis brown, extremely thin and deciduous, finely wrinkled.  $1\frac{1}{2}$ .. $1\frac{1}{2}$ .—*California*.

*T. EDENTULA*. *Brod. and Sow. Z. J. A.*—*Beechey Zool.* 1. 41. f. 5. and 44. f. 7.—*Lis. t.* 406. f. 252. ?—*An. Ch. f.* 74. ?—*E. t.* 290. f. 3. ? Obovate, posteriorly longer, depressed, anteriorly shorter and sub-angulated; rather inequivalve, concentrically striated, whitish; ligament large: cardinal teeth obsolete, no lateral ones.  $2$ .. $2\frac{1}{2}$ .—*Behring's Straits*.

*T. ALTA*. *Conr. Jour. A. N. S. Phil.* 7. p. 254. Sub-oval, approaching to sub-orbicular, slightly ventricose, dull, roughish, yellowish white, equilateral, with distinct prominent lines of growth, posteriorly obtusely rounded; deeper valve anteriorly biangulated, the other with an angular groove; margin broad direct slightly emarginate at its extremity towards the base; cardinal plate broad, teeth long and prominent.— $1\frac{1}{2}$ .. $1\frac{1}{2}$ .—*California*.—*Outline not unlike E. t.* 231. f. 1.

*T. FLEXUOSA*, *Say. Jour. A. N. S. Phil.* 2. p. 303.—*Subor-*



bicular, white, anteriorly longer and the less obtusely rounded; with very regular, parallel, oblique striæ which on the anterior margin are four or five times refracted and infracted alternately, transverse wrinkles minute; beak not prominent.  $\frac{1}{2}$ .—*U. States*.

T. LINTEA. *Conr. Journ. A. N. S. Phil.* 7. p. 259. t. 20. f. 3. Sub-triangular-oval compressed, thickish; with prominent acute concentric lines; anterior side rather shorter, subacuminated, with a groove separated from the margin by a carinated line and obliquely striated, extremity sub-rostated and truncated; beaks small and acute: lateral teeth distinct.  $\frac{1}{2}$ .—*Alabama*.

T. BALTHICA. *Lin.* 1120.—*D. p.* 102.—*Born.* p. 38. t. 2. f. 14.—*Ch. f.* 128.—*W. t.* 4. f. 35. Rounded-triangular, all but smooth, slopes rectilinear, ventral edge arcuated: compressed, the anterior margin not inflected but acute; apices acute: both within and without rosy and white at the sides: teeth as in *Carnaria*.  $1\frac{1}{2}$ .—*N. Europe*.

T. TRIFASCATA. *Lin.* 1118.—*Gmel.* 3213.—*W. t.* 4. f. 30. Abbreviated-ovate, posteriorly longer, nearly smooth, white, thick, glossy with three red or purple rays: lateral teeth strong.  $1\frac{1}{2}$ .—*Europe?*—*Akin to Bimaculata*.

T. CARNARIA.\* *Lin.* 1119.—*D. p.* 100.—*Don.* t. 47.—*W. t.* 4. f. 79.—*Wood G. C. t.* 40. f. 415.—*LUCINA C. Lam.* 8.—*Ch. f.* 126.—*List. t.* 339. f. 176. Sub-orbicular, flesh or rose-colour within and without; slightly convex, inequilateral, with delicate minute crowded striæ, which are curved and reflected in different directions; hinge which is placed a little on the posterior side with two small cardinal teeth in one valve and one in the other, and strong laminal lateral teeth.—*Diameter*  $\frac{1}{2}$ .—*W. Indies*.

T. BALAUSTINA. *Lin.* 1119.—*Payr. Cat. t.* 1. f. 21, 2.—*Poli.* 1. t. 14. f. 17. Small, rounded-triangular, pellucid, yellowish white with red rays, shining, tumid, equilateral, with elegant transverse striæ.  $\frac{1}{2}$ ... $\frac{1}{2}$ .—*Mediterranean*.

T. BURNETI. *Brod. and Sow. Z. J.* 4. t. 9. f. 2. Triangular, the ventral margin rounded, strongly incurved at the fold, one valve flattish, the other rather convex, the sides serrated, posterior one falcated, anterior nearly straight: white, concentrically striated, translucent: lateral teeth in one of the valves.  $\frac{1}{2}$ ... $1\frac{1}{2}$ .—*Mazatlan*.

T. MERA. *Say. Am. C. t.* 64. f. 2. Rounded, thin, white, rather depressed, somewhat regularly striated transversely; beaks forming a rather prominent angle, dorsal edges sloping; anteriorly much shorter, obtuse, with an obvious undulation; posteriorly rounded; ventral edge arcuated; two cardinal teeth in each valve, a single short lateral in one.  $\frac{1}{2}$ ... $\frac{1}{2}$ .—*S. Carolina*.

T. INCONSPICUA. *Brod. and Sow. Z. J.* 40.—*Beechey Zool. t.* 41. f. 6.—*AN. SANGUINOLARIA FUSCA?* *Conrad. Mar. Con. t.* 7. Obovate, sublenticular, posteriorly shorter, white or flesh coloured

with the umbones darker : ligament large : cardinal teeth small, no lateral ones. <sup>1</sup><sub>2</sub><sup>1</sup><sub>2</sub>.—*Arctic Ocean*.<sup>1</sup>

TELLINIDES.

*Transverse, inequilateral, flattened, a little gaping laterally; beaks small and sub-depressed: no anterior irregular plait; two divergent primary teeth in each valve, and two lateral teeth, which are somewhat obsolete; the posterior one approximate in one valve.*

T. TIMORENSIS. *Lam.* 1.—*Reeve.* t. 56. f. 2.—*Sow. G.*—TELLINA NIVEA. *Wood. G. C. t.* 46. f. 1.?—*D. p.* 89.?—*W. t.* 4. f. 62.? Oval elliptic with the anterior side rather longer narrower and obtusely truncated at the tip, white and but little convex, marked with concentric striae and the ventral margin sindulated. 1 $\frac{1}{2}$ .—*Near Timor*.<sup>2</sup>

T. TRUNCATULUS. *Sow. Tank. Cat.* Oblong, anteriorly slightly shorter, sub-attenuated and obtusely angulated, posteriorly rounded, the ventral edge little arcuated; smooth, glossy, sub-iridescent, pellucid, sub-equivalve, convex.  $\frac{1}{2}$ .. 1 $\frac{1}{2}$ .—*E. Indies*.

T. OPALINA.—TELLINA O. *Ch. f.* 107.—*Gmel. p.* 3236.—*W. t.* 4. f. 41. Sub-ovate, posteriorly rather shorter and rounded, anteriorly obtusely sub-cuneiform, sloping uninterruptedly from the arcuated ligamental edge to the ventral which is sub-incurved anteriorly, compressed, thin, white more or less opaline, nearly smooth; the flatter valve with an internal oblique radiating rib.—*Variety*. Rose colour. T. ROSEA. *Sow. G. f.* 1.—*Reeve t.* 56. f. 1. 1.. 1 $\frac{1}{2}$ .—*Nicobar*.

T. OVALIS. *Sow. Tank.* Oval, rounded at both ends, smooth, inequivalve, anteriorly rather shorter and narrower; thin, rather compressed, pink with narrow white rays: a solid bifid cardinal tooth in one valve, an approximate lateral tooth with rudimentary cardinal in the other.

T. ACUMINATUS. Very inequivalve, very inequilateral, oblong, anterior side cuneiform and twice as long as the rounded posterior: white with usually an orange tinge on the discs, thin, polished, smooth except on the posterior slope where the striae of growth are

<sup>1</sup> See also the INFLATA of Chemnitz (*W. t.* 3. f. 9.) whose figure we have copied, but are unable to identify the shell.

<sup>2</sup> I have almost confined myself to a description of the species enumerated by Mr. Sowerby, in a genus whose institution almost every writer has condemned. Many, however, of the Tellens at the close of the first division, have perhaps an equal right to be included in this genus.

distinct: convex valve with the anterior slope flattened: inside with two anterior obliquely radiating ribs.  $1\frac{1}{2}$ .

T. STRIATA.—SOLE N. *Chem. f.* 57, 8.—*Gmel.* 3227.—*D. p.* 66.—*W. t.* 3. *f.* 24. Oval, diaphanous, subequivalve, posteriorly rather longer and rounded, anteriorly obtuse, ventral edge slightly arcuated: glossy, thin, rather depressed, strongly striated transversely, pink with numerous narrow white rays, a solitary all but primary lateral tooth in one valve, cardinal teeth obsolete.  $1 \dots 1\frac{1}{2}$ .—*Nicobar*.<sup>1</sup>

T. EMARGINATUS. *Sow. Tank.* Oblong, inequilateral, smoothish, anteriorly sub-angulated and emarginated, the slope concave in both valves, posteriorly twice as long, subattenuated and rounded: umbones pale orange and within two darker oblong orange stains, passing from the umbo to each muscular scar: a symmetrical fold in each valve.—*Brazil*.—*T. Oblonga* of *Chemnitz*, *f.* 87, much resembles it, but has no lateral tooth.

T. COCCINEA.—TELLINA C. *Gmel.* 3236.—*D. p.* 87.—*Ch. f.* 109.—*W. t.* 4. *f.* 42. Oval, inequivalve, rather compressed, rounded at both ends, posteriorly rather longer and broader, very thin, pellucid, uniform rose-colour with closely set transverse striae, the alternate ones only crossing the anterior slope: nymphs prominent: in one valve two small cardinal teeth with an approximate lateral in the other.  $\frac{3}{4} \dots 1\frac{1}{2}$ .—*Mediterranean*?

T. PURPUREUS. *Brod. and Sow. Z. J.* 4.—*Beechey Zool. t.* 42. *f.* 2.—*An.* TELLINA ROSEA *Lam.*? Oblong, compressed, subequilateral, purplish rose-colour, prettily decussated, anterior side sub-acuminated and slightly emarginated.  $1\frac{1}{2} \dots 2\frac{1}{5}$ .—*Pacific*.

T. TRIANGULARIS.—TELLINA T. *Chem. f.* 85.—*D. p.* 79.—*Desh. in Lam. vol. 6.* *p.* 209.—*W. t.* 4. *f.* 33.—T. POLITUS. *Sow. Tank.* Ovate-triangular, greyish white, transverse, inequilateral, depressed, posteriorly shorter and rounded, anteriorly produced narrowed and subacuminated: thin, with transverse striae which anteriorly in one valve diverge suddenly towards the ventral margin: hinge with two teeth, no lateral ones.  $1\frac{1}{2} \dots 2$ .—*Cape of Good Hope*.

#### CORBIS.

*Transverse, equivalve, without anterior flexuosity, slightly depressed; beaks incurved towards each other; hinge with two primary teeth, and two lateral ones, of which the posterior one is nearest the cardinal teeth; muscular impressions simple.*

C. FIMBRIATA. *Lam.* 1.—*Sow. G.*—*Reeve, t.* 57.—VENUS F. *Lin.* 1113.—*D. p.* 187.—*Ch. f.* 448.—*E. t.* 286. *f.* 3. *W. t.* 8.

<sup>1</sup> I almost doubt if *Ovalis* of Sowerby is distinct from this, and even as to either belonging to this genus and not to *Psammotea*.

f. 65. Oval, thick, gibbous, with transverse undulated ribs and longitudinal striæ: yellowish white, the margin crenulated: both muscular impressions somewhat lanceolate, the posterior the shorter and broader.  $2 \frac{1}{2}$ .—*Indian Ocean. Pacific Ocean?*

C. SOWERBII. *Reeve. Z. P.* 1841.—*Reeve. t.* 58. Transverse, tumid, gibbous, white or pink with obsolete rosy rays diverging from the umbones to the margin, transverse elevated rather distant ridges serrated at the sides, particularly posteriorly, and numerous radiating striæ intervening: margin thickish, strongly crenulated, the umbones longitudinal, direct and minute; lunule small and subcordate.  $2 \frac{1}{2}$ ..  $3 \frac{1}{2}$ .—*Philippines.*—*The young are rather depressed and the rays (frequently) more distinct.*

LUCINA.

*Suborbicular, inequilateral; beaks small, pointed, and oblique; hinge variable, sometimes with two divergent teeth, one of which is bifid, (but changing or disappearing with age); two lateral teeth, the intermediate one obsolete; the posterior nearest the primary ones; two distinct muscular impressions widely separated, the posterior one prolonged.*

L. JAMAICENSIS. *Lam.* 1.—*Sow. G. f.* 3.—*Reeve. t.* 59. f. 3.—*VENUS J. D. p.* 193.—*E. t.* 284. f. 2.—*W. t.* 8. f. 79. Sub-orbicular, thick, inflected with a longitudinal furrow at both extremities; slightly ventricose, white or yellow with distant transverse membranaceous striæ: interior usually yellowish or brownish, posterior depression minute. *Diam.*  $1 \frac{1}{2}$ .—*W. Indies.*

L. PENSYLVANICA. *Lam.* 2.—*VENUS P. Lin.* 1134.—*D. p.* 193.—*E. t.* 284. f. 1.—*Ch. f.* 394, 5.—*List. t.* 305. f. 138.—*B. t.* 5. f. 8.—*W. t.* 8. f. 78. Sub-orbicular, inflected by a longitudinal furrow on the anterior side; ventricose, tumid, white within and without and marked with concentric membranaceous ridges: posterior depression large and heartshaped. *Diam.*  $1 \frac{1}{2}$ .—*W. Indies.*

L. EDENTULA. *Lam.* 3.—*VENUS E. Lin.* 1135.—*D. p.* 202.—*Ch. f.* 427, 8, 9.—*E. t.* 284. f. 3.—*W. t.* 8. f. 98. Orbicular ventricose, sub-globose, not thick, white, with fine concentric wrinkles: posterior depression ovate-acute and much sunken; apricot yellow within, hinge toothless.  $1 \frac{1}{2}$ .. 2.—*W. Indies.*

L. RADULA.\* *Lam.* 5. *Turt. B. p.* 116.—*VENUS SPURIA. Gmel.* 3284.—*D. p.* 194.—*TELLINA R. Mont. t.* 2. f. 1, 2.—*Ch. f.* 399. ?—*Wood. G. C. t.* 42. f. 4, 5.—*W. t.* 4. f. 71. Orbicular, convex, dirty white, with numerous raised concentric thread-like striæ, which in old specimens become irregular and indistinct towards the margin; the interstices broad and shallow; inside dull chalky white; beaks central, a small lunule. *Diam.*  $1 \frac{1}{2}$ .—*England.*

L. DIVARICATA.\* *Lam.* 7.—*TELLINA D. Lin.* 1120.—*D. p.*

102.—*Ch. f.* 129.—*E. t.* 285. *f.* 4.—*W. t.* 4. *f.* 87.—*Wood. G. C. t.* 46. *f.* 6. Sub-orbicular, very convex, white, strong, and sub-diaphanous; the two sides striated obliquely in different directions so as to form an obtuse angle where they meet. *Diam.*  $\frac{3}{4}$ .—*Variety.*—*TELLINA DENTATA.* *Wood. G. C. t.* 46. *f.* 6.—*D. p.* 103. The upper part of the margin, particularly the posterior, strongly dentated, the rest serrated, the concentric striæ with serrated edges, the waved striæ finer and closer.—*S. America and the Mediterranean.*<sup>1</sup>

*L. MURICATA.*—*L. SCABRA.* *Lam.* 9.—*TELLINA M.* *D. p.* 98.—*Ch. f.* 1945, 6.—*E. t.* 285. *f.* 5.—*W. t.* 4. *f.* 73. Orbicular rather flat, white, diaphanous, with small radiating scaly ribs; hinge with two cardinal teeth in each valve, and two lateral ones which shut into opposite cavities: within with impressed dots. *Diam.* 1.—*Terra Firma.*<sup>2</sup>

*L. SQUAMOSA.* *Lam.* 11.—*E. t.* 285. *f.* 3.—*TELLINA RETICULATA.* *Poli. t.* 20. *f.* 14. Sub-orbicular, tumid, inequilateral, with small radiating imbricated and scaly ribs; both depressions sunken. 1.—*Mediterranean.*

*L. LACTEA.\** *Lam.* 12.—*Turt. B. p.* 112. *t.* 7. *f.* 4, 5.—*AMPHIDESMA L.* *Lam.* 3.—*TELLINA L.* *Lin.* 1119.—*D. p.* 99.—*Mont. t.* 2. *f.* 4.—*Ch. f.* 125.—*LORIPES L.* *Bl. t.* 72. *f.* 1. Orbicular gibbous, white, diaphanous, nearly equilateral, irregularly striated concentrically; beaks tumid and hooked, a small depression on the posterior slope: hinge with the teeth indistinct, two teeth in one valve, and one in the other, besides a linear marginal groove for the ligament. *Diam.*  $\frac{3}{4}$ .—*Europe.*

*L. ROTUNDATA.* *Turt. B. t.* 7. *f.* 3.—*TELLINA R.* *Mont. p.* 71. *t.* 2. *f.* 3.—*W. t.* 4. *f.* 77. Nearly orbicular, convex, with numerous indistinct concentric striæ, thin semi-pellucid, white and moderately glossy, beaks a little inclining; hinge with two teeth in each valve, of which the larger one is bifid and slightly diverging. *Diam.*  $\frac{3}{4}$ .—*England.*

*L. UNDATA.\** *Lam.* 13.—*Turt. B. p.* 115.—*VENUS U.* *Pen. t.* 58. *f.* 5.—*D. p.* 197.—*Don. 4. t.* 121.—*Lin. Trans. 6. t.* 17. *f.* 17, 8.—*W. t.* 8. *f.* 87. Thin, sub-orbicular, convex, sub-equilateral, semi-transparent yellowish or brownish white, somewhat wrinkled transversely, and slightly flexuous at the margin; no

<sup>1</sup> *L. CARNARIA.* *Lam.* 8. is a *Tellina.*—*Deshayes.*

<sup>2</sup> *L. RETICULATA.* *Lam.* 10. Orbicular, depressed, convex, whitish, with concentric distinct lamellæ and longitudinal striæ in the interstices; cardinal teeth strong, one of the lateral very approximate.—*France.* For this species *Ch. f.* 118. and *Trans. Lin. 8. t.* 1. *f.* 9. ? are referred to; both representing a variety of *Tellina Crassa.*

lunule; inside glossy, hinge with three teeth in one valve (the middle one cloven) and two in the other. Diam.  $1\frac{1}{2}$ .

L. COLOMBELLA. *Lam.* 15.—*Sow. G.* f. 6.—L. ADANSONI. *D'Orb. Mol. Cari. t.* 7. f. 26, 7. Sub-orbicular, convex, gibbous, transversely grooved and one of the slopes hollowed; beaks moderately prominent and obliquely curved.—*Senegal*.

L. SINUATA.\* *Lam.* 16.—TELLINA FLEXUOSA. *Mont. p.* 72.—*D. p.* 99.—*Dön. t.* 42. f. 2.—*W. t.* 4. f. 78.—CRYPTODON F. *Turt. Biv. t.* 7. f. 9, 10.—LUCINA F. *Gould. Mas. f.* 52. Sub-orbicular, convex, thin, pellucid and white; marked with minute irregular concentric wrinkles, and a longitudinal furrow extending from the apex parallel to the cartilage slope, and forming a deep curve in the margin at its termination: hinge with a single obscure penetrating cardinal tooth. Diam.  $\frac{3}{4}$ .—*Atlantic*.

L. PECTEN. *Lam.* 17.—*Del. t.* 6. f. 8.—*An. L. BELLA. Conrad. I. A. N. S. Phil.* 7. t. 19. f. 11.? Sub-orbicular, rather broader than long, but slightly convex, whitish with small rounded transversely striated radiating ribs: inner margin crenulated.  $\frac{1}{4}$ .—*Senegal*.—*Not unlike a cockle*.

L. LUTEA. *Lam.* 18.—*Del. t.* 6. f. 9. Rounded oval, sub-equilateral, rather broader than long, very small, smooth, pellucid, canary yellow, no lateral teeth.  $\frac{3}{4}$ .—*Mauritius*.

L. DIGITALIS. *Lam.* 19.—*Del. t.* 6. f. 10.—TELLINA DIGITARIA? *Lin. Gmel. No.* 75. Small rounded triangular, whitish tinged with rose colour at the umbones, which are tumid and marked with very elegant fine and oblique striæ. *Mediterranean*.

L. GLOBULARIS. *Lam.* 20. Sub-globose, thin, whitish, vesicular; no lateral teeth.  $\frac{1}{4}$ .—*New Holland*.

L. VIRGINEA. *Desh.—E. vol.* 3. p. 379. Orbicular, depressed, white, with transverse ridgelike striæ and very delicate longitudinal ones; beaks very small and acute; anterior depression heart-shaped, and rather exserted in the middle, posterior simple and tinged with rose-color.—*Amboyna*.—*Not unlike Radula, but larger and differing by the hinge, the lunule, and the anterior slope*.

L. AURANTIA. *Lam.* 34.—*Ch. f.* 396. Orbicular, convex, turgid and thick, whitish at the beaks, becoming orange as it recedes from them, finely striated transversely; lunule depressed and ovate, posterior depression large and ovate: margins entire.—*Indian Ocean*.

L. PUNCTATA. *Sow. G.—Reeve. t.* 59. f. 1.—VENUS P. *Lin.* 1134.—*D. p.* 194.—*W. t.* 8. f. 81.—CYTHEREA P. *Lam.* 54.—*Ch. f.* 397, 8.—*E. t.* 277. f. 3. Sub-orbicular, rather depressed, whitish often stained with pink on the slopes, with longitudinal distant grooves, and the intermediate spaces flattened: within with the margin rosy, and the central portion thickened, dotted, and usually yellowish: posterior depression minute and excavated. Diam. 2.—*Indian Ocean*.

*L. TIGERINA*. *Desh.*—*VENUS T.* *Lin.* 1133.—*D.* p. 191.—*W. t.* 8. *f.* 75.—*Mont. t.* 4. *f.* 1.—*Ch. f.* 390, 1.—*E. t.* 277. *f.* 4.  
*CYTHEREA T.* *Lam.* 53. Orbicular, compressed, white, with longitudinal ribs which are rather flat, very close, narrow, and numerous, and are crossed by still closer set concentric striæ; lunule minute, triangular sunken, ligament buried: within white, with often a tinge of rose-colour on the hinge and margin: hinge with two primary teeth in each valve, a lateral tooth in one and a receptacle for it in the other. Diam. up to 2.—*West Indies.*—*Variety.*  
 —*CYTH. INTERRUPTA.* *Lam.* 52. The longitudinal striæ only on the sides, and within greenish yellow, without any rosy tinge on the margin. *Senegal.*<sup>1</sup>

*L. SCABRA.* *Gray. Ann. Phil.* 25.—*TELLINA S.* *D.* p. 96.—*Ch. f.* 1943, 4.—*W. t.* 4. *f.* 72. Sub-orbicular, ventral margin semicircular, dorsal straighter, convex, inflected on both sides, posterior inflection the larger: white and strongly striated transversely: hinge with one cardinal tooth, and two strong lateral ones, which shut into cavities in the opposite valve.

*L. GLOBOSA.* *Gray. Ann. Phil.* 25.—*VENUS G.* *D.* p. 202.—*Ch. f.* 430, 1.—*E. t.* 285. *f.* 1.—*W. t.* 8. *f.* 99. Sub-orbicular, ventricose, pellucid, white, with obsolete transverse striæ: umbones rounded, slopes indistinct, margin entire.  $1\frac{1}{2}$ .. $1\frac{1}{2}$ .—*Red Sea.*

*L. SPINIFERA.*—*VENUS S.* *Mont. p.* 577. *t.* 17. *f.* 1.—*W. t.* 7. *f.* 11.—*D. p.* 163.—*MYRTEA S.* *Turt. B. p.* 133.—*F. p.* 443. Oval, subtriangular, yellowish white, with numerous fine laminar equi-distant transverse ridges, which reflect a little, and in both valves become anteriorly confluent in pairs, extending beyond the edges, so as to form a fringe of short obtuse spines, which turn back and form a cavity for the cartilage; beak small, sub-central, lunule long and narrow: in one valve a single cardinal tooth, and a lateral on each side, in the other two cardinal, and the lateral obscure.  $\frac{1}{2}$ .. $\frac{1}{2}$ .—*England.*

*L. ZELANICA.* *Gray in Yates, New Zeal.* Sub-orbicular, rather compressed, rather solid, opaque, white, smooth, very slightly concentrically striated, and covered with a thin smooth periostraca.—*New Zealand.*—*Lake, but more compressed and opaque than L. Lactea.*

*L. SPHÆROIDES.* *Conr. Jour. A. N. S. Phil.* 6. *t.* 11. *f.* 9, 10.—*Ch. f.* 130. Globose, white; ribs divaricating, triangular and

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<sup>1</sup> Sowerby and Deshayes have with justice removed this shell, with the preceding species, from *Cytherea*, the palleal scar being simple, and not sinuated as in that genus: neither indeed does it possess four teeth in one valve; though as regards the hinge I fear it is no more a *Lucina* than it was a *Cytherea*.

acute : interstices concave and transversely wrinkled ; one end depressed ; margin entire, lunule minute. *Africa*.

L. NUTTALLII. *Conn. Jour. A.N.S. Phil.* 7. p. 255. t. 29. f. 2. Lenticular, broader than long, slightly compressed, cancellated, the concentric lines very regular, lamelliform, prominent ; posterior fold small and marginal ; the extremity emarginate above ; ligamental edge little sloping, cardinal and lateral teeth distinct, inner margin minutely crenulated. 1.—*California*.

L. CHILDRENI. *Gray Ann. Phil.* 25.—*Z. J.* 1. p. 221. —*Sov. G.f.* 2.—*Reeve. t.* 59. f. 2.—*TELLINA C. W. N. t.* 1. f. 1. Sub-orbicular, longer than broad, inequivalve, white, nearly smooth, sub-antiquated, very finely radiated, sub-striated. Length 3.—*Brazil*.

L. RUGIFERA. *Reeve. Z. P.* 1835. Rounded, lenticular, rather convex, whitish, somewhat banded with reddish chevrons, the radiating striae elevated and crossing the concentric ; beak triangular, impressed, minute : inside white. 2..2½.—*New Holland*. —*Not unlike Tigerina*.

#### DOXAX.

*Transverse, equivalve, inequilateral ; with the anterior side very short and obtuse ; two primary teeth in one or both valves ; and one or two lateral teeth, more or less distant ; ligament external, short, inserted at the posterior impression.*

*Inner margin entire or nearly so.*

D. SCORTUM. *Lin.* 1126.—*D. p.* 14½.—*Lam.* 1.—*E. t.* 260. f. 2.—*Ch. f.* 242, 5, 6, 7.—*B. t.* 4. f. 1, 2.—*W. t.* 6. f. 1. Triangular with the anterior slope acute and flattish, greyish white, with usually a tinge of violet, and decussated elevated striae, which become abruptly more distant towards the posterior end ; anterior depression somewhat heart-shaped and flat ; inside violet towards the hinge, and the margin not quite entire : hinge with a lateral tooth in each side. In old specimens the angular margin of the anterior slope is armed with vaulted scales : in young (D. PUBESCENS. *Lin.* 1127.—*D. p.* 149.—*Ch. f.* 24.—*E. t.* 260. f. 1.—*Lam.* 2.—*W. t.* 6. f. 2.) with serrated spines. 1½..2½.—*India*.

D. CUNEATA. *Lin.* 1127.—*D. p.* 153.—*Lam.* 3.—*Ch. f.* 260. —*List. t.* 392. f. 231.—*B. vignette, p.* 52.—*W. t.* 6. f. 13. Ovate, wedge-shaped, compressed posteriorly, anteriorly abruptly truncated, convex and coarsely wrinkled transversely ; white or pale grey, rayed with rufous drab or dark violet, and very minutely striated longitudinally.—*Variety*. Rufous with white rays.—*Variety*. (D. GRANOSA. *Lam.* 8.) with the rays livid violet, and the angulated slope sub-granular. 1..1½.—*Tranquebar*.

D. COMPRESSA. *Lam.* 4.—*E. vol.* 2. p. 96.—*List. t.* 391. f.



230.?—*E. t.* 262. *f.* 6. (Worn shell. *T. PURPURASCENS. Gmel.* 323.—*W. t.* 4. *f.* 49.) Triangular, wedge-shaped, anteriorly depressed, and somewhat wrinkled transversely; most minutely striated longitudinally, tawny flesh colour with dull lilac zones: angle at the beaks sharp; margins angulated: anterior slope totally destitute of longitudinal striæ.  $1\frac{1}{2}$ .. $1\frac{1}{2}$ .—*Sumatra.*

*D. DELTOIDES. Lam.* 5.—*An. Sow. G.?*—*Reeve. t.* 60. *f.* 4. ? Triangular, pink, and nearly smooth, the anterior slope flattish and longitudinally striated. *Kangaroo Island.*—*Larger and less compressed than the last.*

*D. FABA. Chem. f.* 267.—*D. p.* 155.—*W. t.* 6. *f.* 16.—*D. RADIANS. Lam.* 6.—*E. t.* 261. *f.* 7. Oval, convex, finely striated transversely, the anterior slope obliquely wrinkled, white rayed with fulvous but variable in colour.—*Variety.* Not rayed but spotted.—*Ch. f.* 266.  $\frac{2}{3}$ ..—*Malabar.*

*D. ABBREVIATA. Lam.* 7. Triangular, proportionably less broad than the other species, very delicately striated transversely, polished white with two red and a bluish ray, anterior slope with ragged wrinkles; ventral margin quite entire and arcuated.  $1\frac{1}{4}$ .

*D. COLUMBELLA. Lam.* 9.—*Del. t.* 6. *f.* 1. Ovate, cuneiform, polished with radiating anastomosing lines, very pale violet with indistinct zones: anterior side short and obliquely truncated, the slope with crowded and transverse striæ.—*Variety.* With the zones and interior violet.—*Variety.* White.  $\frac{2}{3}$ ..1.—*New Holland.*

*D. VENERIFORMIS. Lam.* 10. Roundish, triangular, transversely striated, grey with indistinct rays: anterior slope with crenulated striæ.  $1\frac{1}{2}$ .—*Asiatic Ocean.*

*D. AUSTRALIS. Lam.* 11.—*Ast. t.* 81. *f.* 20, 1, 2.—*D. OBSCURA. Desh. E. t.* 2. *p.* 98. Ovate-triangular, transversely striated, whitish or fulvous: violet within; anterior slope decussated and sub-granular.  $1\frac{1}{2}$ .—*New Holland and Timor.*—*Not unlike Bicolor.*

*D. EPIDERMIA. Lam.* 12. Triangular, wedge-shaped, nearly smooth; anterior end obtuse, and the slope longitudinally striated: epidermis yellowish green.—*New Holland.*—*Not unlike Capsa Levigata, but differing by its hinge, and the being more wedge-shaped.*<sup>1</sup>

<sup>1</sup> I have not seen an authenticated specimen of this species, but the shell figured as *Deltoides* by Sowerby (*Sow. G. f.* 4.) and Reeve (*t.* 60. *f.* 4.) agrees better with this brief description, than with the equally concise characteristics of that species. The following description is taken from a specimen named by Mr. Sowerby himself. Triangular, sub-cuneiform, glossy, orange yellow under a very thin olive epidermis, posteriorly attenuated obtuse, much com-

D. BICOLOR. *Lam.* 13.—*An.* D. BICOLOR. *Gmel.* no. 16.?  
—*Gualt.* t. 88. f. 5 —*List.* t. 392. f. 231. Ovate, wedge-shaped,  
whitish stained with brown, with a few longitudinal striæ, de-  
creasing still fewer transverse ones: anterior end with waved and curled  
furrows: spotted with violet within.—*Mauritius or India.*

D. VITTATA. *Lam.* 14.—*Del.* t. 6. f. 12.—D. BIRADIATA and  
SEXRADIATA. *W. S.* Ovate, rather depressed, with transverse  
groove-like striæ; whitish with a very few rufous rays, which en-  
large as they approach the margins.—*Mediterranean.*<sup>2</sup>

D. LESSONI. *Desh.* E. 3. p. 99. no. 15. Triangular, smooth,  
depressed, sub-equilateral, pale fulvous with numerous brown in-  
terrupted rays, and the apex acute: within brownish white, and the  
margin quite entire and gaping at one end: one of the lateral teeth  
very long, the other indistinct.—*Chili.*—*Tolerably large, and the*  
*length and breadth nearly equal.*

D. CORBULOIDES. *Desh.* E. 3. p. 99. no. 18. Triangular,  
gibbous, equilateral, polished and heart-shaped: pink with elegant  
waved or angulated reddish yellow transverse lines; brownish red  
within.

D. EQUILATERA. *Sow. Tank. Cat.*—D. VENEROIDEA. *Gray.*  
—VENUS DONACINA. *Ch. f.* 1983, 4. Sub-triangular, sub-  
equilateral, the slopes nearly straight, ventral edge arcuated and  
ascending towards the anterior and longer extremity; strong, con-  
vex, white covered with angular sub-reticulated markings of ochra-  
ceous brown and obsoletely rayed: disc smooth, sides with distant  
concentric grooves: anterior slope rounded, towards the beaks  
edged with radiating sub-granulated striæ, elsewhere smooth: inside  
white, margin entire, three approximate cardinal teeth in one valve,  
two and a rudimentary in the other; no lateral. 1..1½.—*S. Seas.*

D. OWENII. *Gray in B. M.* Extremely elongated,  
smooth, polished; anterior side obliquely truncated and very  
short, its slope concentrically striated, and its dorsal edge  
much sloping; broad white rays on a drab ground, a short narrow

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pressed and perfectly smooth; anteriorly very short, very convex,  
with very fine radiating striæ, which are very indistinct, except on  
the slope; umbonal ridge angulated near the smooth beaks; ven-  
tral edge arcuated: inside stained with purple: receptacle of the  
lateral tooth very prominent. 1½..2.

<sup>2</sup> D. TRIQUETRA. *Lam.* 15. Triangular, sub-equilateral, glossy,  
much swollen under the beaks, whitish with fine transverse striæ,  
and a few vestiges of rays: and indistinct violet spot within. ¾.—  
*New Holland.*—(A young variety of *Cytherea Corbicula.*  
*Desh.*)

dark purple ray bordering the anterior slope near the beaks : no posterior or lateral tooth. 1.—*Africa*.<sup>1</sup>

**\*\* Inner edge crenated.**

*D. RUGOSA*. *Lin.* 1127.—*D. p.* 159.—*RUGOSA in part.*—*Lam.* 17.—*Knorr.* 6. *t.* 28. *f.* 8.—*E. t.* 262. *f.* 3.—*Ch. f.* 250.—*W. t.* 6. *f.* 3. Elongated, wedge-shaped, inflated, anteriorly extremely short obtusely and almost directly truncated, the slope angulated at its edge and roughened by transverse coarse grooves decussated by radiating striæ: variable in colouring, being whitish or pale drab, sometimes with purple rays, or reddish with deeper zones, covered with simple rather fine radiating striæ: ventral edge not incurved and little arcuated.  $\frac{3}{4}$ ..1 $\frac{1}{4}$ .—*S. America*.<sup>2</sup>

*D. STRIATA*. *Lin.* (not *Chemnitz*.) *D. p.* 151.—*List. t.* 376. *f.* 219.—*Knorr.* 6. *t.* 7. *f.* 7.—*Gualt. t.* 89. *D.*—*E. t.* 262. *f.* 5. Sub-triangularly cuneiform, inequilateral, covered with strong radiating striæ, variable in colouring but usually dull white or reddish with darker concentric bands, posterior dorsal edge much sloping, the ventral arcuated in the middle, but sub-incurved at the sides: anterior slope sub-biangulated (sharply so at the umbonal slope) and marked with strong radiating striæ: margin internally dentated: two lateral teeth in each valve.  $\frac{3}{4}$ ..1 $\frac{3}{4}$ .—*West Indies*.

*D. CAYENNENSIS*. *Lam.* 18.—*Del. t.* 6. *f.* 13. Somewhat triangular, white slightly tinged with purplish, short and obtusely truncated anteriorly, with fine longitudinal grooves, and the sides of the anterior slope sub-biangulated: beaks reddish purple.—*Guiana*.—*Less tumid but akin to the last*.<sup>3</sup>

*D. ELONGATA*. *Lam.* 19.—*Adanson. t.* 18. *f.* 1.—*Seba.* 3. *t.* 86. *f.* 10.? Transversely elongated and longitudinally grooved, very obtuse anteriorly; the grooves at the anterior end sub-denticulated: violet within.—*Variety*.—Very pale fulvous and white within.—*W. Africa*.

*D. DENTICULATA*.<sup>\*</sup> *Lin.* 1127.—*D. p.* 151.—*Lam.* 20.—*Ch. f.* 256.—*E. t.* 262. *f.* 7.—*Don. t.* 24.—*W. t.* 6. *f.* 8. Ovate, wedge-shaped and very obtuse anteriorly, with numerous fine punctured longitudinal striæ, white with purple rays: anterior slope transversely wrinkled and the margin toothed; purple within.  $\frac{1}{2}$ ..1 $\frac{1}{2}$ .—*Mediterranean and West Indies*.

*D. CARDIOIDES*. *Lam.* 21.—*Ast. t.* 81. *f.* 17, 8, 9.—*Del. t.*

<sup>1</sup> See too the *RADIATA* of *Schræter* (of which we have given a copy) *t.* 8. *f.* 3. *p.* 104.—*D. p.* 155.—*W. t.* 6. *f.* 17.

<sup>2</sup> *D. RINGENS*, *Lam.* 16. is a *Capsa*.

<sup>3</sup> *Delessert*'s figure of *CAYENNENSIS* so well agrees with some varieties of the preceding, that I can hardly venture to consider the species distinct.

6. f. 14. Trapeziform, transverse, turgid, sub-equilateral, longitudinally grooved, white reticulated with red and brown spots. posterior end nearly smooth, anterior slope gibbous in the middle: pale orange rufous within, the margin serrated. 1.—*New Holland*.—*Scarcely a Donax, the hinge more resembling that of Cardium Medium, and the pallial scar not sloped posteriorly.*

D. MEROE. *Lam.* 22.—*Vent.* M. *Lin.* 1132.—*D.* p. 183.—*W. t.* 8. f. 62.—*Ch. f.* 450, 1, 2.—*E. t.* 261. f. 1.—*List. t.* 378. f. 221. Ovate, triangular, compressed, with narrow transverse parallel grooves, variable in colouring, but generally whitish, tinged more or less with fulvous, and covered with a broad zig-zag stripe of a purplish or liver colour: anterior slope excavated.—*Variety.*—Uniform white or purple. (*Ch. f.* 453). 2.—*India.*

D. SCRIPTA.\* *Lin.* 1127.—*D.* p. 154.—*Lam.* 23.—*List. t.* 379. f. 222.—*E. t.* 261. f. 2, 3, 4.—*Ch. f.* 261. 2, 3.—*W. t.* 6. f. 15. Ovate, somewhat flattened, smooth, white with wavy lines and spots (which are usually parallel) of a purplish orange reddish or fawn colour; anterior depression hollowed and the ligament sunk in a groove: margins acute.—*India.*<sup>4</sup>

D. ANATINUM.\* *Lam.*—*Blain. t.* 72. f. 2.—D. TRUNCULUS. *W. t.* 6. f. 5. (not *Lam.* 24.)—*Don. t.* 29. f. 1.—*D.* p. 150.—*Lis. t.* 376. f. 217.—*Dors. Cat. t.* 6. f. 3.—*Da Costa. t.* 14. f. 3. Oblong wedge-shaped, with the hinge margin nearly straight; glossy, with numerous minute longitudinal simple striae, becoming obsolete towards the anterior end, which is shorter, smooth, and very obliquely truncated; yellowish olive, with two or three pale rays, and darker or lighter bands; violet within: a single lateral tooth. 4.. 1½.—*Europe.*<sup>5</sup>

D. FABAGELLA. *Lam.* 25. Transversely oblong, with the anterior side short oblique convex and sub-carinated; whitish somewhat tinged with red, and indistinctly rayed: the transverse striae decussated by extremely fine longitudinal ones. 1.<sup>6</sup>

<sup>4</sup> Both this and the preceding species are more allied to *Cytherea* than *Donax*. There are three cardinal teeth in the right and two in the left valve, the posterior tooth confounding itself with the nymphæ. These cardinal teeth are disposed differently from those of *Donax* proper.

<sup>5</sup> We have given a copy of the *D. STRIATUS* of Chemnitz (*W. t.* 6. f. 7.) which is probably an exaggerated figure of this species; certainly it is not the *Striatus* of Linné.

<sup>6</sup> This is probably the same as *D. SEMISTRIATA*. *Poli. t.* 19. f. 7.—*Philip. p.* 36. t. 3. f. 12. Oblong, wedge-shaped, usually drab with two white rays, very smooth posteriorly, anteriorly with decussating striae: anterior slope with strong transverse grooves, its

**D. MARTINICENSIS.** *Lam.* 27.—*Del.* t. 6. f. 15. Transversely ovate and flattened, with transverse and very delicate longitudinal striæ, pinkish white and obscurely rayed; anterior side obliquely truncated, posterior produced and rounded. 2.—*Martinique*.<sup>1</sup>

**D. SPINOSA.** *Chemnitz.* f. 258. p. 265.—*W.* t. 6. f. 11. Wedge-shaped; anterior side extremely short, almost directly truncated, and the slope decussated by striæ, and edged by a spinous keel posteriorly; anteriorly with transverse crenulated striæ, posteriorly with very delicate radiating lines: ventral edge more strongly denticulated anteriorly.  $\frac{3}{4}$ ..1.—*Tranquebar*.

**D. MADAGASCARIENSIS.** *Wood.* sup. t. 2. f. 3. Cuneiform, anteriorly very short and obliquely truncated, posteriorly sub-acuminated, the posterior dorsal edge greatly sloping, the ventral arcuated in the middle; with oblique somewhat flexuous grooves.  $\frac{3}{4}$ .—*Madagascar*.

**D. DENTIFERA.** *Nobis.* in *Z. P.* 1843. Sub-triangular, crowded with fine simple radiating striæ, which posteriorly are crossed by a few concentric lines of growth, and anteriorly are decussated by very close and fine undulating wrinkles, which give a granular appearance to the fine radiating raised striæ on the somewhat flattened anterior slope, the latter biangulated, both angles defined by a distinct radiating rib or ribs, furnished with a projecting tooth at its extremity: dorsal edge much sloping posteriorly, posterior side obtusely rounded: variable in colouring, flesh colour, olive yellow, with purple umbones or rayed with purple inside, velvet or brilliant pink: ventral edge little arcuated  $1\frac{1}{4}$ .—*S. America*?

**D. CARINATA.** *Nobis* in *Z. P.* 1843. Transversely elongated, convex, very inequilateral, purplish brown, with more or less distinct radiating striæ, (usually with obsolete darker rays and polished,) ventral edge little arcuated and forming a very acute point with the nearly straight edge of the obliquely truncated and almost flattened anterior slope, which is very sharply carinated and sculptured by close decussated radiating striæ: inside purple, two lateral teeth in each valve, the ventral edge crenated, anterior crenulated.  $\frac{3}{4}$ ..1 $\frac{3}{4}$ .

**D. PUNCTATO-STRIATA.** *Nobis* in *Z. P.* 1843. Sub-triangular, very convex, pale livid brown, with strong radiating punctated striæ, becoming very fine and close on the anterior slope, whose edge is rounded, posterior and anterior edges much sloping, ventral

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edge convex and rounded at the tip; ventral edge sub-incurved anteriorly: usually violet within.  $\frac{3}{4}$ ..1.—*Mediterranean*.

<sup>1</sup> The figure in Delessert professedly delineated from Lamarck's own specimen, resembles a *Tellina* (*Punicea*?) rather than a *Donax*. It has an anterior fold, is pale purplish within and without, with two obscure short rays, and the hinge sub-central.

arcuated in the middle; inside stained with violet, the ventral margins dentated, the anterior crenulated: two cardinal and lateral teeth in each valve.  $\frac{3}{4}..1\frac{1}{2}$ .—*China*.—*When full grown less inequilateral than most of this genus*.

D. STRAMINEA. *Schröter*. 3. p. 105. no. 12. t. 8. f. 4.—*Gmel*. 3266.—*D*. p. 156.—*W*. t. 6. f. 19. Obtusely wedge shaped, convex, posterior dorsal edge much sloping, anteriorly very short, the edge convex and continuous to the ventral margin, the slope rounded; yellow with two extremely short purple rays at the beaks, smooth except just at the anterior extremity, and bordering on the slope, where it is flexuously grooved and decussated by minute radiating striæ, which latter are continued throughout the slope; inside white, the slopes purple, the margin only crenulated anteriorly: a cardinal and two lateral teeth in one valve, two cardinal and a lateral in the other.  $\frac{1}{2}.. \frac{2}{3}$ .

D. SEMISULCATA. *Nobis in Z. P.* 1843. Abbreviated cuneiform, uniform yellowish white, slightly tinged with red at the umbones, posteriorly attenuated and smooth, the posterior dorsal edge much sloping: anteriorly all but directly truncated, marked with transverse grooves, decussated by radiating striæ, anterior edge nearly straight; margins crenated: inside white, the disc pale pink, two lateral teeth in one valve, one in the other.  $\frac{2}{3}.. \frac{2}{3}$ .

D. INCARNATA. *Chem. f.* 259.—*Gmel*. 3265.—*D*. p. 153.—*W*. t. 6. f. 12. —*E*. t. 261. f. 6. Wedge-shaped, uniform pinkish flesh colour, truncated and marked with decussated wrinkled striæ, posteriorly very finely striated longitudinally.  $\frac{2}{3}.. 1$ .—*Tranquebar*.

D. VARIABILIS. *Say. Jour. A. N. S. Phil.* 2. p. 305.—*Say. Am. C. t.* 61. f. 1. Triangular; anteriorly obliquely truncated and cordate, the suture a little convex; posterior dorsal edge nearly straight: the suture indented; beaks a little prominent, sub-central: red, white, yellow or with linear reddish brown rays on a white or yellow ground, with most delicate longitudinal striæ, which are obsolete posteriorly.  $\frac{2}{3}.. \frac{2}{3}$ —*U. States*.

D. FOSSOR. *Say. Jour. A. N. S. Phil.* 2. p. 306.—*Say. Am. C. t.* 61. f. 2. Sub-triangular, anteriorly short and rounded, posterior dorsal edge straight, beak little prominent, with all but invisible longitudinal striæ, which are obsolete posteriorly, pale livid, with two whitish sub-anterior rays both within and without.  $\frac{2}{3}$ .—*New Jersey*.—*Variety*—Whitish.—*Variety*—Yellowish.

D. CALIFORNICA. *Conr. Jour. A. N. S. Phil.* 7. p. 254. t. 19. f. 21. Elongated, somewhat pointed at both ends, discs with very minute radiating lines, yellowish, obscurely rayed, a brown stripe on the posterior and anterior sub-margin: inside white and purplish brown, the margin crenulated.  $\frac{2}{3}$ .—*California*.

D. SCALPELLUM. *Gray. Ann. Phil.* 25.—*W. S. Donax*. 1. Elongated, flattened, thin, polished, yellowish, with purple rays, and

delicate radiating striæ, posteriorly much elongated, rounded yellow ; anteriorly oblique, truncated, biangulated, purple : the margin finely denticulated.  $\frac{1}{4}$ .. $\frac{3}{4}$ .

D. PULCHELLA. *Nobis in Z. P.* 1843. Very elongated transversely, convex, very inequilateral, pellucid, polished, whitish, with three anterior narrow purple rays, obsoletely and radiatingly striated ; anterior slope rounded, finely striated longitudinally, its edge very convex ; ventral edge crenulated, nearly straight, sub-incurred anteriorly ; lateral teeth very approximate.  $\frac{1}{3}$ .. $\frac{1}{3}$ .—*W. Indies?*—*Very like Scalpellum. Gray.*<sup>1</sup>

## CAPSA.

*Transverse, equivalve, valves approximate and close ; with two primary teeth in the right valve, and a single bifid one in the left ; no lateral teeth ; ligament external.*

C. COMPLANATA.\* *Sow. G. f.* 8.—TELLINA POLITA. *Poli. 2. t. 21. f.* 145.—DONAX COMPLANATA. *Mont. p.* 106.—*Turt. B. t. 7. f.* 13, 4.—*D. p.* 150.—*W. t. 6. f.* 6. Ovate-oblong, transverse, smooth, whitish under a greenish epidermis, and marked at the posterior end with a single yellowish ray, bordered by two brown lines : margin quite entire, somewhat violet within.—*Mediterranean, &c.*

C. LEVIGATA. *Lam. 1.*—DONAX L. *Gmel. 3265.*—*D. p.* 154.—*Ch. f.* 249.—*W. t. 6. f.* 14. Triangular, ovate, sub-equilateral, obsoletely striated, and slightly depressed on the anterior slope ; epidermis greenish yellow, beaks and interior violet : margin quite entire.  $1\frac{1}{2}$ .. $2\frac{1}{2}$ .—*Tranquebar.*

C. BRASILIENSIS. *Lam. 2.*—*Sow. G. f.* 1.—*Reeve. t. 61. f.* 1.—*Bl. t. 71. f.* 3.—*E. t. 261. f.* 10. Oblong, triangular, inequilateral and very depressed towards the anterior extremity ; epidermis yellowish green, striated both longitudinally and transversely : whitish within.—*Brazil.*—*Larger than the last.*

C. RINGENS. *Desh.*—DONAX SERRA. *D. p.* 149.—*W. t. 6. f.* 4.—DONAX R. *Lam. 16.*—*Ch. f.* 251, 2.—*E. t. 260. f.* 3. Large, ovate-triangular, wedge-shaped, with the anterior end gibbous, rough, and undulatingly wrinkled ; whitish, stained with violet within : margin strongly toothed, cartilage cleft oblong.  $2$ .. $3$ .—*Cape of Good Hope.*

C. ALTIOR. *Sow. Z. P.* 1832. Sub-triangularly oblong, palish

<sup>1</sup> A copy of Schröter's figure of Donax Candida (*W. t. 6. f. 20.*) is given, but the description of the hinge which is stated to have three cardinal and a lateral tooth in each valve, prevents the possibility of its belonging to this genus.

under an olive epidermis, internally violet; dorsal margin sloping posteriorly, with a rounded off acumination, anteriorly sub-truncated; ventral edge posteriorly rounded; anteriorly slightly flexuous: umbones blackish.  $1\frac{1}{2}$  ..  $3\frac{1}{2}$ .—*Peru and C. America.*

C. TRUNCULUS.—DONAX. T. *Lam.* 24.—*Philip.* p. 36.—*Ch.* f. 253, 4.—*Born. t.* 4. f. 3. 4.—*Knorr.* 1. t. 7. f. 7.—*E.* t. 262. f. 1.—*Poli.* 1. t. 19. f. 12, 3. Oblong wedge-shaped, thick, only marked with obsolete minute longitudinal striae, posterior side nearly thrice as long as the obliquely truncated anterior; posterior dorsal edge sub-rectilinear: a linear excavated lunule; yellow, (rarely lilac) often with paler radiating lines, and one or two violet bands; inside usually violet.  $\frac{2}{3}$  ..  $1\frac{1}{3}$ .—*Mediterranean.*

CRASSINA.

*Sub-orbicular, transverse, equivalve, sub-inequilateral, close; hinge with two strong, diverging, primary teeth in the right valve, and two unequal ones on the other; ligament external, on the longer side.*

C. SULCATA.\* *Turt. B. p.* 132. t. 11. f. 1, 2.—*VENUS.* 8. *Mont. p.* 131.—*Lam.* 27.—C. DANMONIENSIS. *Lam.* 1.—*VENUS.* D. *Mont. sup. t.* 29. f. 4.—*D. p.* 167.—*Bl.* t. 75. f. 7. —*W. t.* 7. f. 21. Roundish, triangular, and slightly compressed, white under a dark brown cuticle, with smooth strong regular equidistant concentric ridges; beaks nearly central and inclining; lozenge lanceolate lunule nearly heart-shaped: inner margin glossy and crenulated. 1 ..  $1\frac{1}{2}$ .—*England.*<sup>2</sup>

C. FUSCA. *Desh.*—TELLINA. F. *Poli.* 1. t. 15. f. 32, 3. Solid, triangular, somewhat heart-shaped, brown, sub-equilateral, with twelve or thirteen very regular large transverse grooves: lunule impressed deep and smooth: white within and the margins toothed. *Mediterranean.*

C. SCOTICA.\* *Mont. sup. p.* 44.—*VENUS.* 8. *Lam.* 55.—*D. p.* 167.—*Lin. Tr.* 8. t. 2. f. 3.—*Turt. B. t.* 11. f. 3, 4.—*W. t.* 7. f. 20. Ovate, heart shaped, with strong regular flattened concentric smooth ridges, white, with a brown cuticle, and the margin entire. 1.—*Scotland, England.*

<sup>2</sup> The shell which has been considered by American authors as identical with the European species is most assuredly distinct. We propose for it the name of C. LATISULCA. Cordiform, convex, thick, heavy, with about eleven much elevated concentric ribs, which are much narrower than the interstitial grooves; cuticle black; umbones eroded; lunule ovate oblong, and as well as the lanceolate lozenge, excavated. 1 ..  $1\frac{1}{2}$ .—*N. America.*



**C. INCRASSATA.** *Desh. in Lam. 7. p. 257.* Solid, triangular, sub-cordiform, inflated; chesnut brown, quite smooth except at the beaks, which have transverse wrinkles; slightly inflexed on one side; margin usually denticulated; hinge with two strong teeth, one in the right valve minute.—*Mediterranean?*

**C. CASTANEA.** *Say. Am. t. 1. f. 1.—Gould. Mas.—VENUS.* *C. Say. I. A. N. S.* Rounded, depressed, solid, and irregularly striated, with a chesnut cuticle and acute beaks; lunule oval-oblong and depressed: within white, with the margins finely crenulated, and the teeth of one valve unequal. 1.—*New Jersey.*

**C. BOREALIS.** *Gray. Ann. Phil. 25.—VENUS B. Lin. 1134.?* —*D. p. 198.—Ch. f. 412, 3, 4.* Rounded ovate, both slopes sub-truncated, flattish, transversely striated, white under a reddish brown cuticle, always decorticated at the beaks. 1..1½.—*N. Europe?*

**C. MONTAGUI.** *Gray. Ann. Phil. 25.—VENUS COMPRESSA.* *Mont. t. 26. f. 1.—D. p. 167.—W. t. 7. f. 19.—CYPRINA. C. Turt. Biv. t. 11. f. 20. to 23.* Sub-triangular, posteriorly rounded, anteriorly but slightly so, obsoletely and irregularly grooved transversely, white under a brown cuticle: the depression in front of the beaks, which are very prominent and inclining, sudden. ¼.—*Scotland.*

**C. CRENATA.—NICANIA. C.** *Gray in Parry Sup.* Oval-elliptical, with regular concentric furrows, pale yellowish green: umbones sub-central, lunule oblong lanceolate: in one valve a bifid cardinal tooth, in the other two simple ones, two rudimentary small lateral laminae in each: margin crenated.—*N. Pole.*

**C. LACTEA.—ASTARTE. L.** *Brod. and Sow. Z. J. 4.—Beechey. Zool. t. 44. f. 12.—Gould. Mas. p. 81.* Obovate, compressed, posteriorly shorter, the anterior dorsal margin depressed: dull, with a thick dark cuticle, distinctly marked with concentric lines of growth: inside white, margins quite entire. 1½..1¾.—*Icy Cape.*

**C. ARTICA.** *Gray. in Parry Sup.* Roundish ovate, convex, white under a black shining finely concentrically striated cuticle: umbones rather prominent, slightly grooved concentrically; lunule oblong-ovate, deep, anteriorly lanceolate: in one valve a strong simple cardinal tooth, two diverging ones in the other, lateral laminae two in each valve, the anterior remote and small: edge entire. 1½..1¾.—*N. Pole.*<sup>1</sup>

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<sup>1</sup> Compare with these the *ASTARTE CYPRINOIDES* of Duval, in *Rev. Z. Cuv.* 1841.

SECTION.—LAMELLIFEDES.

*The foot depressed, lamelliform, and not posterior.*

TRIBE CONCHACEA.

*With at least three primary teeth in one valve, and the other with generally the same, although sometimes with less.*

SECTION.—FLUVIATILE.

*Shells with lateral teeth at the hinge, and covered with a spurious epidermis, or cuticle.*

CYCLAS.

*Ovate, globular, transverse, and equivalve, with the beaks tumid; cardinal teeth very small, sometimes barely perceptible; or with two in each valve of which one is complicated; or only one plicated or lobed tooth in one valve, and two in the other; lateral teeth transversely elongated, compressed and lamelliform; ligament external.*

C. RIVICOLA \* *Lam.* 1.—*Turt. B. t.* 11. *f.* 13.—*Turt. M. t.* 1. *f.* 1.—TELLINA CORNEA. *D.* *p.* 104.—*W. t.* 5. *f.* 90.—*E. t.* 302. *f.* 5.—*Wood. G. C. t.* 46. *f.* 3. Sub-equilateral, sub-globose, ovate, ventricose, rather solid, beautifully and closely striated, greenish brown with two or three darker bands and the umbones obtuse, paler, and often circumscribed by a darker line; the edge and lunule yellow: cardinal ligament conspicuous.  $\frac{1}{4}$  . .  $\frac{3}{4}$ .—*Europe.*

C. CORNEA.\* *Lam.* 2.—*Turt. M. t.* 1. *f.* 2.—*Turt. B. t.* 11. *f.* 14. *p.* 248.—TELLINA CORNEA. *Lin.* 1120.—*Don. t.* 96.—*Ch. f.* 133.—C. RIVALIS. *Drap. t.* 10. *f.* 14. Sub-equilateral, sub-orbicular, globose, thin, and very finely striated transversely: umbones blunt: ligament not conspicuous.—*Variety*—Sub-globose and rather flattened on the basal edge: umbones tumid, pellucid, and very prominent.—*Variety*—Smaller and nearly globular.—*Europe.*

C. LACUSTRIS. *Drap. t.* 10. *f.* 6, 7.—*Lam.* 3.—*Turt. M. t.* 1. *f.* 4.—(*copy*). Sub-rhombic, rather flattish, very finely striated, and sub-equilateral.—*Europe.*

C. AMNICA.\* *Turt. M. f.* 5. *p.* 15.—*Turt. B. t.* 11. *f.* 15.—*W. t.* 3. *f.* 19.—TELLINA A. *D.* *p.* 105.—C. OBLIQUA. *Lam.* 4.—C. PALUSTRIS. *Drap. t.* 10. *f.* 15, 6. Inequilateral, ovate, ventricose, deeply striated sulcately, greenish horn-colour; the umbones rather blunt.—*Europe.*

C. CALYCVLATA.\* *Lam.* 5.—*Drap. t.* 10. *f.* 13, 4.—*Turt. M. f.* 3.—C. LACUSTRIS. *Turt. B. p.* 249. *t.* 11. *f.* 18.—CARDIUM L. *Mont. p.* 89.—TELLINA L. *W. t.* 5. *f.* 91. Nearly

equilateral, rather rhombic, compressed, thin, yellowish white, diaphanous, umbones prominent, rather acute and tuberculose : ligament inconspicuous.—*Variety*—Orbicular, less compressed, sub-diaphanous and reddish brown.—*Variety* 2.—Orbicular, rhombic, rather ventricose, sub-diaphanous and reddish : umbones less prominent, blackish.  $\frac{1}{4} \cdot \frac{1}{3}$ .—*Europe*.

C. OBTUSALIS.\* *Lam.* 6.—*Del. t.* 7. *f.* 2.—*PISIDIUM* D. *Pfeif. t.* 5. *f.* 21, 2.—*Gray. Turt. f.* 149. Globose, obliquely sub-ovate, slightly inequilateral, shining, very finely striated, greenish black, with a yellowish marginal zone, rarely altogether yellowish ; umbones rather prominent and very blunt.—*Variety* 1.—Ovate, triangular, very ventricose, blackish or ochraceous, edge very blunt.  $\frac{1}{2}$ .—*Sweden, &c.*

C. FONTINALIS. *Lam.* 7. *Drap. t.* 10. *f.* 8. to 11.—*PUSILLA*.\* *Turt. M. f.* 7.—*Turt. B. p.* 251. *t.* 11. *f.* 16, 7. Orbicular, ovate and rather compressed, very finely striated, and scarcely inequilateral, umbones rather prominent.  $\frac{1}{2}$ .—*France, Sweden, &c.*

C. AUSTRALIS. *Lam.* 8. Somewhat heart-shaped, tumid, opaque, inequilateral, with transverse groove-like striæ, umbones prominent ; beaks obliquely inclining.—*Timor.*  $\frac{1}{2}$ .—*Variety*—*Pellucid.*—*New Holland.*

G. SIMILIS. *Say. in Nich. Enc. Amer.* 4. *t.* 1. *f.* 9.—*Gould. Mas. f.* 53. *p.* 73.—C. SULCATA. *Lam.* 9.—*Del. t.* 7. *f.* 3. Sub-oval, sub-equilateral, marked with strongly raised lines of growth, very convex, the sides nearly equally rounded, the anterior slightly the larger and more pointed, the ventral edge very little arcuated, remarkably broad across the beaks, which are but slightly elevated, dark chesnut brown, inside bluish. The young thin and compressed, hinge with minute very oblique cardinal teeth, the lateral distinct strong and white, the dorsal line nearly straight, and the extremities truncated, so as to give the shell a quadrilateral shape, light lemon or wax yellow.  $\frac{1}{2} \cdot \frac{1}{10}$ .—*Massachusetts, North America.*

C. STRIATINA. *Lam.* 10.—*Del. t.* 7. *f.* 4. Rounded, elliptic, somewhat inequilateral, posteriorly shorter and slightly angulated, greenish olive, convex, elegantly striated, beaks somewhat decorticated.  $\frac{1}{2}$ .—*Lake George in North America.*—*Smaller and more inequilateral than C. Cornea.*

C. SARRATOGA. *Lam.* 11.—*Del. t.* 7. *f.* 9. Transversely oval, posteriorly rounded and rather shorter, with an obtuse anterior dorsal angle : a brownish epidermis and transverse striæ : beaks decorticated and eroded. 1.—*Sarratoga in North America.*

C. NITIDA.\*—*PISIDIUM*. N. *Jenyns Monog. in Camb. Ph. Tr.* 4. *p.* 16. *t.* 20. *f.* 7, 8.—*Gray. Turt. p.* 283. *f.* 150. Rounded oval, slightly inequilateral, very shining, finely striated, sides obtuse, ventral edge little arcuated, dorsal line scarcely slop-

ing: umbones rather blunt, with a few deeper striae.—*England*.—*Minute*.

C. PULCHELLA.\*—PISIDIUM P. *Jenyns Mon.* 18. t. 21. f. 1.—*Gray. Turt.* p. 284. f. 151.—CARDIUM AMNICUM JUNIOR. *Mont.* p. 88. Obliquely ovate, inequilateral, ventricose, deeply striated concentrically: umbones rather blunt, simple.—*Variety*—*Jenyns. Mon.* t. 21. f. 2, 3.—C. FONTINALIS of *Brown and Alder*. Smaller, thin, finely striated, umbones rather acute.—*Variety*—Obliquely oval, finely striated, compressed, margin acute.—*Variety*—(*Jen. Mon.* t. 21. f. 4, 5.) Rather oblong, very ventricose, deeply striated: edge very blunt, hinge margin nearly straight.—*England*.—*Minute*.

C. APPENDICULATA.\* *Turt. Mon.* p. 15. f. 6.—PISIDIUM HENSLOWIANUM. *Jen. Mon.* p. 20. t. 21. f. 6, 7.—*Gray. Turt.* f. 6. p. 283. Obliquely oval, ventricose, finely striated concentrically, inequilateral; umbones rather acute, with a laminar projection.—*England*.—*Minute*.

C. CINEREA.\*—PISIDIUM C. *Alder. Cat. sup.* p. 4.—*Gray. Turt.* p. 286. Greyish or cinereous, inequilateral, rather compressed, oval, finely striated, with two or three deeper sulcations, forming darker zones across the shell: margin of the valves meeting at a rather acute angle; umbones obtuse and not much produced; sometimes slightly capped as in *Calculata*.—*Variety*—More ventricose and produced at the umbones.  $\frac{1}{2}$ .—*England*.

C. PARTUMEA. *Say. J. A. N. S. Phil.* 2. p. 380.—*Gould. Mas.* p. 73. f. 54.—C. CORNEA. *Var.* 2, 3. *Lam.* Rounded-oval, slightly broader anteriorly, not at all angulated, thin, fragile, pellucid, tumid, shining, nearly smooth, light greenish horn-colour, with a marginal band of lilac or yellow: hinge margin nearly straight: ventral edge arcuated: beaks sub-central, moderately elevated, inclining inwards: inside tinged with lilac, cardinal teeth small, diverging, lateral strong and white.—*Young*—Light yellow, transparent, less tumid and longer.  $\frac{2}{3}$  . .  $\frac{2}{5}$ .—*Massachusetts, &c.*

C. ELEGANS. *Adams in Bost. Jour. of N. H.* 3. t. 3. f. 11.—*Gould. Mas.* p. 75. f. 55. Obtusely sub-quadrilateral, all but equilateral, the edges sub-parallel, ventral edge nearly straight; tumid when adult, compressed when young, not regularly convex but somewhat flattened down the middle, olive green with a straw-coloured margin and narrower zones, fine rounded concentric wrinkles; beaks not prominent; inside bluish, the cardinal teeth rudimentary, the lateral large and strong.  $\frac{7}{10}$  . .  $\frac{1}{2}$ .—*Massachusetts*.<sup>1</sup>

<sup>1</sup> Add C. RHOMBOIDEA. See too C. ARGENTINA and PULCHELLA of D'Orb. in *Mag. de Z.* 1835.—C. BAHIIENSIS. *Spir. Test. Braz.* t. 23. f. 5, 6.—C. STAMINEA. *Conrad*.—C. TRANSVERSA, C. DUBIA. (*Gould. f.* 56.) and EDENTULA. *Say*.

## CYRENA.

Shell roundish and trigonal; turgid or ventricose, inequilateral, solid, with a strong epidermis, and the beaks usually decorticated; hinge with three teeth in each valve; lateral teeth almost always two, one of which is near the primary ones; ligament external, and placed on the larger side.

\* Lateral teeth serrated or denticulated.

C. TRIGONELLA. Lam. 1. Smallish, triangular, sub-equilateral, fulvous and nearly smooth, beaks somewhat violet.  $\frac{1}{2}$ .—*E. Indies*.

C. ORIENTALIS. Lam. 2.—*Del. t. 7. f. 8.* Transverse, sub-triangularly ovate, olive green, the beaks violet, with transverse distant grooves: violet within, the lateral teeth serrulated.  $\frac{2}{3}$ .—*China*.

C. COR. Lam. 3.—*Del. t. 7. f. 7.*—TELLINA FLUMINALIS. Muller.—*D. p. 106.*—*Ch. f. 320.*—*E. t. 302. f. 2.*—VENUS F. W. t. 8. f. 113. Elongated heart-shaped, oblique, fully as long as broad, anteriorly longer and rather attenuated, thick, tumid, cuticle olive green with often olive brown zones, with distant sub-imbricated grooves: beaks prominent and involute: inside violet.  $1\frac{1}{2}$ .—*Euphrates*.

C. FUSCATA. Lam. 4.—TELLINA FLUVIATILIS. D. p. 107.—*Ch. f. 321.*—*E. t. 302. f. 2.*—VENUS F. W. t. 8. f. 115. Transverse, olive green, sub-equilateral, rounded at the sides, not thick, with close sub-imbricated grooves; beaks obtuse: violet within. 1.—*Canton*.

C. FLUMINEA. Lam. 5.—TELLINA FLUMINEA. Gmel. 3243.—*D. p. 107.*—*Ch. f. 322, 3.*—*Schraë. Fluss. t. 4. f. 2.*—VENUS F. W. t. 8. f. 114. Heart-shaped, gibbous, yellowish-green, girt with transverse broad grooves; within mottled with white and violet, hinge with the lateral teeth finely denticulated. 1.—*China*.

C. VIOLACEA. Lam. 7.—*Del. t. 7. f. 5.*—*E. t. 301. f. 1.* Ovate elliptic, inequilateral, transversely grooved, violet within and without, indistinctly rayed; anterior side convex and acute, the beaks decorticated; hinge with the lateral teeth denticulated.  $1\frac{1}{2}$ .—*The figures represent a much larger specimen.*—*Indian Ocean*.

C. LIMOSA. Gray. Ann. Phil. 25.—TELLINA L. Maton. Lin. T. 10. t. 24. f. 8, 9, 10.—Wood. G. C. t. 46. f. 4, 5.—*D. p. 106.*—*W. t. 5. f. 86.* Ovate, equivalve, brittle, smooth, transversely striated, with a green cuticle and the margin entire; umbones prominent and rather acute: within purple.  $\frac{1}{2}$ ..  $\frac{2}{3}$ .—*S. America*.

C. WOODIANA. Lea. Tr. Am. Ph. 5. t. 18. f. 55. Sub-triangular, ovate, thick, obtusely angular, anteriorly sub-equilateral, convex, shining except on the anterior slope, blackish brown, with transverse large wrinkles: beaks large, rounded: inside white, car-

dinal teeth disposed to be bifid, the lateral long straight and serrulate.  $2\frac{2}{3} \dots 2\frac{2}{10}$ .—*Canton*.

C. ROTUNDATA. *Lea. Tr. Am. Ph.* 5. t. 17. f. 51. Sub-orbicular, broader than long, sub-equilateral, thick, transversely and rather minutely wrinkled, rugose and with oblique obsolete folds on the anterior slope; beaks small, pointed, touching: cuticle yellowish brown, becoming anteriorly dark brown: on the posterior slope two curved yellow lines form a lanceolate mark: inside whitish and pinkish: cardinal teeth disposed to be bifid, the lateral long straight and serrulate.  $2\frac{2}{10} \dots 3\frac{3}{10}$ .<sup>1</sup>

\*\* *Lateral teeth entire.*

C. DEPRESSA. *Lam.* 8.—*E. t.* 302. f. 3.—*An. VENUS BOREALIS. Gmel.* 3285.?—*Ch. f.* 412, 3, 4.? Lenticular, triangular, depressed, whitish under a brown cuticle, girt with broad transverse grooves; beaks decorticated, both depressions sunken. 1.—*The figure of the Encyclopedia is much smaller than the stated size, and that of Chemnitz is supposed to be a Venus by Deshayes.*

C. CAROLINENSIS. *Lam.* 9.—*Say. Am. C. t.* 62.—CYCLAS C. *Bosc. Hist. Cog.* 2. t. 18. f. 4. Heart-shaped, turgid, inequilateral; beaks distant, eroded, and decorticated; anterior depression gaping.  $1\frac{1}{2}$ .—*S. Carolina, in N. America.*

C. BENGALENSIS. *Lam.* 10.—*Del. t.* 7. f. 6. Rounded, heart-shaped, somewhat tumid, thick, brown, inequilateral, finely striated transversely; beaks rather distant and decorticated; nymphæ closing: teeth not diverging.  $1\frac{1}{2}$ .—*The link between Carolinensis and Ceylanica.*<sup>2</sup>

C. ZEYLANICA. *Lam.* 11.—VENUS COAXANS. *Gmel.* 3278.—*D. p.* 177.—*Ch. f.* 336.—*E. t.* 302. f. 4.—*Bl. t.* 73. f. 2.—*W. t.* 7. f. 42. Rounded, heart-shaped, tumid, inequilateral; the anterior extremity very slightly angulated, coated with a greenish epidermis, and irregularly and finely striated transversely; umbones decorticated, margin very acute, and the cartilage cleft long, and gaping: hinge with two of the teeth notched.  $2\frac{1}{2}$ .—*Ceylon.*

C. CYPRINOIDES. *Quoy. Ast. t.* 82. f. 1, 2, 3. Large, turgid, heart-shaped, inequilateral, rather thin, with transverse striæ, and a greenish cuticle, which becomes brownish at the sides; yellowish

<sup>1</sup> Allied to this, if indeed distinct, is the C. CHILDRENI. *Gray in W. S. t.* 2. f. 13. Compare with the shells in this division C. JAYENSIS. *Lea. Tr. Am. Ph.* 5. t. 17. f. 52.

<sup>2</sup> Allied, if not synonymous, is the C. TURGIDA. *Lea. Trans. Am. Ph.* 5. t. 18. f. 53. Triangular, inflated, thick, swollen posteriorly, rugose, inequilateral; transversely wrinkled, yellowish brown, darker towards the margin, beaks elevated and recurved: inside white; cardinal teeth disposed to be bifid, posterior lateral tooth short and elevated, anterior lateral long and lamellar.—*India.*

white within; hinge narrow, with the lateral teeth short, and two cardinal ones in each valve, with the rudiments of a third in the left. 1.—*Islands in the S. Seas.*<sup>1</sup>

C. VANIKORENSIS. *Quoy. Ast. t. 82. f. 4, 5.* Roundish, depressed, rather solid, irregularly striated, with the umbones minute, and the cuticle brown; white within, hinge narrow, with three teeth, the lateral ones short, narrow, and far from prominent.—*Vanikoro.*

C. OBLONGA. *Quoy. Ast. t. 82. f. 6, 7, 8.* Transversely ovate, with the posterior extremity sub-angulated, rather turgid, thin, inequilateral, finely striated, and the cuticle brown; within bluish white, and the pallear scar posteriorly sinuous; hinge narrow, with three teeth, and the anterior lateral one obsolete, the posterior produced.—(*Resembles a Venus in shape.*)

C. SUMATRENSIS. *Sow. G.—Reeve. t. 63.* Roundish oval, gibbous, thick, with the beaks eroded, and the cuticle greenish brown: hinge with three cardinal teeth, two of which are larger, angulated, and sub-bifid, the lateral ones short and finely wrinkled.—*Sumatra.*

C. MEXICANA. *Brod. and Sow. Z. J. 4.* Elliptic, ventricose, white under an olivaceous cuticle, rounded at the ends, posteriorly shorter: inside whitish, varied with reddish violet, teeth small and obtuse.  $1\frac{3}{10} \dots 1\frac{5}{10}$ .—*Mexico.*

C. AUSTRALIS. *Desh. E. 2. p. 50.* Ovate-oblong, somewhat depressed, thin, fragile, greenish brown, and marked with extremely fine irregular concentric striæ; orange within.—*New Holland.*—*Resembles a Cyclas.*<sup>2</sup>

#### GALATHEA.

*Equivalve, sub-trigonal, covered with a greenish epidermis; primary teeth grooved, two in the right valve, joined at their base; and three in the other, the intermediate one being separate and protruding; lateral teeth distant; ligament external, short, turgid, and prominent; nymphæ rather prominent.*

G. RADIATA. *Lam.—Be. t. 73. f. 3.*—TELLINA HERMAPHRODITA. *D. p. 167.*—VENUS H. *Gmel.—W. t. 8. f. 116.*—V. PARADOXA. *D. p. 180.*—*Born. t. 4. f. 12, 3.*—*List. t. 158. f.*

<sup>1</sup> Quite distinct from the C. CYPRINOIDES. *Gray. Ann. Phil. 25.—W. S. 2. Venus. f. 14.* Triangular, heart-shaped, gibbous, olive colour, concentrically grooved; hinge thickened, the lateral teeth smooth; the anterior one conic and approximated.  $1\frac{1}{2} \dots 1\frac{1}{2}$ .

<sup>2</sup> See too the C. PAPUA of Lesson.—C. PARANICENSIS and VARIEGATA of D'Orb. in *Mag. de. Z.* 1835. and C. KECAUDRENI of Lesson, in *Voy. de Coq. t. 11. f. 3.* Compare likewise the C. SIMILES. *W. S. t. 2. f. 5.*

13.—*Ch.* f. 327, 8, 9.—*E.* t. 250. f. 1.—*Reeve.* t. 64.—*W.* t. 7. f. 48. Sub-equilateral, sub-triangular, ponderous, tumid at the elevated beaks, slopes concave, sub-rostrated, the ventral edge being slightly incurved anteriorly: cuticle olive, sometimes with dark narrow rays, smooth, shining: inside white. 3.—*Africa.* (*Sierra Leone.*)

SECTION.—MARINE.

*Usually destitute of lateral teeth.*

CYPRINA.

*Shell equivalve, inequilateral, obliquely heart-shaped, beaks obliquely bent; hinge with three unequal teeth, approximate at the base, and slightly divergent above; lateral tooth remote, anterior, (sometimes obsolete); ligament external, and partly sunk between the beaks.*

*C. ISLANDICA.\** *Lam.* 2.—*Turt. B.* p. 135.—*Bl.* t. 70. bis. f. 5.—*Sow. G.*—*Reeve.* t. 65.—*VENUS* I. *Lin.* 1131.—*D.* p. 176.—*List.* t. 272. f. 108.—*W.* t. 7. f. 41.—*Ch.* f. 341.—*Don.* t. 3. f. 77. Obliquely heart-shaped, thick, ponderous, white, under a coarse, brown, rather glossy cuticle, and striated irregularly and concentrically; beaks prominent, lunule obliterated: inside white, and the margins very entire.  $3\frac{1}{2}..3\frac{3}{4}$ .—*N. Europe and N. America.*<sup>2</sup>

*C. TRIANGULARIS.* *Turt. B.* p. 136. t. 11. f. 19, 20. *VENUS* T. *Mont.* p. 577. t. 17. f. 3.—*D.* p. 173.—*W.* t. 7. f. 35.—*Turt. D.* p. 238. Roundish with a triangular outline towards the beaks, which are produced and equally sloping on both sides, smooth, white: lunule lanceolate: three teeth and a curved lateral in one valve, two and a lateral in the other, pallear scar not sinulated.  $\frac{1}{2}$ .—*England and Ireland.*

*C. MINIMA.* *Turt. B.* p. 137.—*VENUS* M. *Mont.* p. 121. t. 3. f. 3.—*D.* p. 166.—*Turt. D.* p. 236.—*W.* t. 7. f. 17. Rounded, with a triangular outline towards the beaks, compressed, with indistinct smooth narrow transverse ribs; lurid flesh-coloured, speckled with minute livid dots, and when young the markings consist of four longitudinal rufous spots, two near the beaks, two at the margin; these by age become obsolete; beaks posterior, much recurved, the lunule lanceolate: inside white, sometimes with purple under the umbones, margin entire.  $\frac{1}{2}.. \frac{1}{2}$ .—*Guernsey.*

CYTHEREA.

*Equivalve, inequilateral, sub-orbicular, trigonal or transverse; right valve with four primary teeth, of which three are divergent*

<sup>2</sup> *C. TENUISTRIA* (*Lam.* 6.) is a *VENUS CHINENSIS*.



and approximate at their base, and one isolated and situated under the lunule; three primary divergent teeth in the opposite valve, and a rather distant hollow parallel to the margin.

\* Inner margin quite entire.

SECTION A.—Anterior tooth or its receptacle striated.

C. LUSORIA. *Lam.* 1.—VENUS L. *D. p.* 177.—*Ch. f.* 340.—*E. t.* 270. *f.* 1.—*W. t.* 7. *f.* 43. Ovate, heart-shaped, smooth, white, with chesnut zones, which are interrupted in the middle: anterior tooth channelled and striated.  $2\frac{1}{2}$ .—*China and Japan.*

C. PETECHIALIS. *Lam.* 2.—*E. t.* 268. *f.* 5, 6.—*Sow. G. —Reeve. t.* 69. *f.* 1. and *t.* 70. *f.* 1. Sub-cordate, obovate, tumid, smooth, greyish, with dark tawny scattered dots under a fulvous epidermis: anterior side angulated and its slope slate-coloured: lunule obsolete: inside white with only a purple stain on the nymphæ.  $2\frac{1}{2}$ .—*Indian Ocean.*

C. IMPUDICA. *Lam.* 3.—*Ch. f.* 347, 8. and 350.—*E. t.* 269. *f.* 1. Rounded, heart-shaped, smooth, thick, inflated, pale salmon-coloured, with the anterior slope (whose angle is very obtuse) and the obsolete rays and bands of pale livid violet: inside white with a purple stain at the anterior end.  $2\frac{1}{2}$ .—*Indian Ocean.*<sup>1</sup>

C. CASTANEA. *Lam.* 4.—*Ch. f.* 351.—*E. t.* 269. *f.* 2. VENUS MERETRIX. *W. t.* 7. *f.* 47. Heart-shaped, smooth, thick, chesnut brown, the anterior slope bluish black: anterior side obtusely angulated.  $2\frac{3}{4}$ .—*Indian Seas.*

C. MERETRIX. *Lam.* 6.—*Del. t.* 8. *f.* 1. Triangular, smooth, white, but bluish olive on the slope of the angulated anterior side; umbones spotted.  $2\frac{1}{2}$ .—*India?*

C. GRAPHICA. *Lam.* 7.—*E. t.* 266. *f.* 5. Rounded, triangular, smooth, grey, with brown rays or flexuous lineoles; anterior slope oval and bluish ash-coloured: lunule oblong: sometimes rayless, sometimes with two imperfect rays: anterior slope slightly elevated in the middle.  $1\frac{1}{2}$ .—*Indian Seas.*

C. MORPHINA. *Lam.* 8.—*Ch. f.* 358.—*E. t.* 266. *f.* 3.\* Rounded, triangular, smooth, grey, (sometimes with two imperfect brown rays), anterior slope bluish brown: lunule ovate.  $1\frac{1}{2}$ .—*Indian Ocean and N. Holland.*—*Perhaps a variety of the last.*<sup>2</sup>

C. ZONARIA. *Lam.* 5.—*Arg. t.* 21. *F.* Triangular, smooth,

<sup>1</sup> We have given a copy of the V. EXILIS of Chemnitz, *f.* 363. (*D. p.* 182.—*W. t.* 7. *f.* 53.) which may probably prove the young of this or MORPHINA.

<sup>2</sup> Quoted likewise for VENUS OPIMA by Lamarck. I do not know the species.

whitish with angularly flexuous bands and rufous lines; anterior slope flattened, with fulvous letter-like markings. 2½.—*India*.

C. PURPURATA. *Lam.* 9. Roundish, heart-shaped, tumid, purple with whitish bands and unequal transverse grooves, of which those on the posterior side and the ventral margin are the more prominent; beaks large and tumid; white within; anterior tooth denticulated and granular. 2.—*Brazil*.

C. CASTA. *Lam.* 10.—VENUS C. *Gmel.* 3278.—*D.* p. 179.—*Ch.* f. 346.—*W. t.* 7. f. 46. Roundish-heart-shaped, nearly smooth, being only marked by indistinct longitudinal striæ, white with the anterior slope and posterior depression ovate roundish and somewhat glaucous, the latter scarcely defined; the interior tinged with violet. 1½..1½.—*India*.

C. CORBICULA. *Lam.* 11.—VENUS C. *Gmel.* 3278.—VENUS MACTROIDES. *D.* p. 172.—*Ch.* f. 326.—*E. t.* 269. f. 3.—*W. t.* 7. f. 33. Triangular, rounded at the ends, and flattened on the slopes, glabrous, whitish or tawny, and somewhat rayed with rufous, beaks narrow; lunule large, paler, and ill-defined; posterior cardinal tooth obliquely furrowed as in the following species.—*Variety*. Fulvous without rays. 2½.—*Guinea and the W. Indies*.

C. TRIPLA. *Lam.* 12.—VENUS TRIPLA. *Lin. Mantis.* p. 545.—*D.* p. 173.—*List. t.* 252. f. 86.—*Ch.* f. 330, 1.—*W. t.* 7. f. 34. Triangular, smooth, obtuse at the ends, whitish or fulvous, umbones tumid and narrow; lunule ovate and large; inside more or less tinged with purple.—*Variety*. With a few indistinct purplish rays. (*Ch.* f. 332).—"Possibly the young of the last." *Deshayes*.—*W. Indies*.

C. NIVEA. Heart-shaped, thick, polished, very convex, pure white, with the anterior slope purplish blue, and a few angular livid markings on the umbones; posteriorly with deep grooves rarely if ever extending to the anterior side; lunule ovate-cordiform, with a purple stain at the base: inside with a purple anterior stain, the anterior tooth striated: margin entire. 1½..2.—*Red Sea*.—*This may possibly prove to be a variety of Purpurascens*.

SECTION B.—*Anterior cardinal tooth not striated in its cleft, nor dentated on the margin.*

C. GIGANTEA. *Lam.* 13.—VENUS G. *Gmel.* 3282.—*D.* p. 202.—*Ch.* f. 1661.—*E. t.* 280. f. 3.—*W. t.* 8. f. 100. Very large, ovate-oblong, pale livid, with numerous interrupted brown or bluish rays: lunule deep, ovate, and keeled in the middle. 3½..6. *Ceylon*.

C. ERYCINA. *Lam.* 14.—*Reeve. t.* 71. f. 3.—VENUS E. *Lin.* 1131.—*D.* p. 175.—*Ch.* f. 337.—*E. t.* 204. f. 2.—*W. t.* 7. f. 38.—*List. t.* 268. f. 104. Ovate, sub-cordiform, thick and rather

heavy, with coarse rather distant irregular grooves, which terminate so as to leave the anterior slope nearly glabrous, glossy, pale brownish fawn, becoming orange-chesnut at the margin, with somewhat interrupted dark brown rays which vary in breadth and are often crowded; lunule ovate; inside white.  $2\frac{1}{2}$ .. $2\frac{1}{2}$ .—*India*.—*Variety*. White, with two bluish brown rays and scattered angular markings; the anterior slope unspotted.—*New Holland*.—*Variety?* VENUS PACIFICA. *D. p.* 175.—*Ch. f.* 1976. Pale brown, with numerous violet brown rays, and the margin tinged with violet.—*China*.

C. LILACINA. *Lam.* 15.—*Ch. f.* 338, 9.—*E. t.* 264. *f.* 3. Ovate, grooved closely, and indistinctly rayed, the margin and interior tinged with violet; lunule livid.  $2\frac{1}{2}$ .—*Molluccas*.—*Not unlike Erycina, but proportionably broader*.

C. IMPAR. *Lam.* 16. Obliquely heart-shaped, whitish, with livid fulvous rays marked with grooves at the posterior end, which become indistinct as they recede; anterior slope bluish grey; within white, with the anterior side empurpled.  $2\frac{1}{2}$ .—*New Holland*.<sup>1</sup>

C. PECTORALIS. *Lam.* 18. Ovate, depressed, transversely grooved, violet fulvous, with some very indistinct rays, and the lunule livid, with its edge as well as the suture beaks and anterior slope white with chesnut markings. 1.—*Perhaps a young variety of Lilacina*.

C. PLANATELLA. *Lam.* 19.—*Ch. 7. t.* 43. *f. b.?* Ovate, flattened, transversely grooved, white, with variously shaped fulvous spots, and a violet stain within; lunule small, ovate, and fulvous. 1.

C. FLORIDA. *Lam.* 20.—*Del. t.* 8. *f.* 7. Subcordate, transversely grooved, brownish with purple clouds and two or three crimson-brown rays; anterior slope marked with lines; lunule chesnut: violet red within.  $\frac{1}{2}$ .—*Florida*.

C. NITIDULA. *Lam.* 21.—*Del. t.* 8. *f.* 4. Ovate-elliptic, rather longer anteriorly, smooth, reddish fulvous, with about two chesnut spotted transverse belts; beaks and interior whitish.  $\frac{1}{2}$ .

C. CHIONE.\* *Lam.* 22.—VENUS CHIONE. *Lin.* 1131.—*D. p.* 178.—*Ch. f.* 343.—*W. t.* 7. *f.* 44.—*Bl. t.* 74. *f.* 5.—*Don. t.* 17. Ovate heart-shaped, glossy, smooth, fulvous with obsolete rays; lunule oblong acute and raised in the middle; cartilage cleft broad: epidermis tawny chesnut.—*Europe*.

C. MACULATA. *Lam.* 23.—VENUS M. *Lin.* 1132.—*D. p.* 178.—*Ch. f.* 345.—*List. t.* 270. *f.* 106.—*E. t.* 265. *f.* 4.—*W. t.* 7. *f.* 45. Ovate, somewhat heart-shaped, smooth and glossy, white more or less tinged with reddish brown, and marked with livid purple somewhat angular spots, some of the larger of which at

<sup>1</sup> C. Erycinella (*Lam.* 17.) is a young Costata.

times form two indistinct rays : white within.  $1\frac{1}{2}$  . . 2.—*S. America, W. Indies.*

*C. CITRINA.* Lam. 24.—*Desh. E. vol. 2. p. 56.*—*Del. t. 8. f. 8.*—*CHIONE STRIATA.* Gray in *Analyst*, 1838. Triangularly heart-shaped, transversely striated, citron colour spotted ventrally on the anterior side both within and without with reddish brown ; the anterior slope reddish and somewhat rayed ; lunule sub-cordate, inside purplish brown.  $1\frac{1}{2}$ .—*New Holland.*

*C. ALBINA.* Lam. 25.—*Del. t. 8. f. 5.* Somewhat heart-shaped, ovate, white, with the umbones pale, marked with a few transverse strise ; scarcely any lunule ; perfectly white within.  $1\frac{1}{2}$ .—*Indian Ocean?*—*Slightly resembling List. t. 263. f. 99.*

*C. LETA.* Lam. 26.—*VENUS L. Lin. 1132.*—*W. t. 7. f. 49.*—*D. p. 180.*—*Ch. f. 353, 4.*—*E. t. 266. f. 4.*—*Bt. t. 74. f. 1.*—*V. AFFINIS.* Gmel. 3278. Somewhat heart-shaped, obovate, tumid, not thick, whitish with rather interrupted tawny rays ; lunule subovate and raised towards its point, where it forms an angle ; inner disc often fleshy pink. 2.—*Molluccas.*—*Variety.* Without rays, but with minute red spots at the umbones.

*C. MACTROIDES.* Lam. 27.—*Del. t. 8. f. 2.* Triangular, sub-equilateral, depressed, ferruginous, with a few white rays, and transverse strise towards the ventral margin ; the anterior slope rufous or rust-coloured and flattened ; lunule lanceolate, beaks whitish : white within. 2.

*C. TRIGONELLA.* Lam. 28.—*Del. t. 8. f. 3.*—*TRIGONELLA ANGULIFERA.* Gray in *Analyst*, 1838. Small, triangularly-ovate, smooth, mottled with pale fulvous and purple, and marked with rufous angularly flexuous lines ; spotted within.—*W. Indies.*

*C. SULCATINA.* Lam. 29.—*Ch. f. 371, 2.*—*E. t. 269. f. 3.* Rounded triangular, brownish red rayed with white, with transverse strise, which almost become grooves posteriorly ; lunule heart-shaped : golden yellow within.  $1\frac{1}{2}$ .—*India.*—*Variety.* Pale brown at the anterior end : white within.

*C. HEBREA.* Lam. 30.—*Del. t. 8. f. 6.* Obliquely heart-shaped, ventricose, transversely striated, white, somewhat rayed with linked fulvous letter-like markings, and stained with reddish brown under each beak in the interior, which elsewhere is white.  $1\frac{1}{2}$ .—*Indian Ocean?*

*C. CASTRENSIS.* Lam. 31.—*Reeve. t. 71. f. 2*—*VENUS C. Lin. 1132.*—*D. p. 183.*—*Ch. f. 367, 8.*—*W. t. 7. f. 57.*—*Knorr. 1. t. 21. f. 5. & 2. t. 20. f. 2. & 6. t. 6. f. 5, 6.*—*List. t. 262. f. 98.* Roundish, heart-shaped, broader than long, ventricose, thick, glabrous, white, with scattered purplish brown chestnut or yellowish short broad angulated streaks, one of whose edges is broken : lunule elongated, heart-shaped, and defined by a groove. *Variety.* *Ch. f. 1662.* With short brown forked markings, the angle being directed towards the beak.  $2\frac{1}{2}$ .—*Indian Ocean.*

C. ORNATA. *Lam.* 32.—*Ch. f.* 369, 370.—*E. t.* 273. *f.* 5. Roundish triangular, not ventricose, bluish white, with longitudinally disposed crowded chesnut angular streaks: anterior slope yellowish; lunule somewhat heart-shaped and defined by a groove.  $1\frac{2}{10}$ .—*Indian Ocean*.—Probably a variety of *Castrensis*.<sup>1</sup>

C. PICTA. *Lam.* 33.—VENUS ORNATA. *D. p.* 184.—*Ch. f.* 380, 1.—*W. t.* 7. *f.* 59.—*E. t.* 272. *f.* 2, 3.—*List. t.* 259. *f.* 95. Obtusely heart-shaped, obovate, and moderately convex, smooth, covered with angular linear rufous or chesnut markings, (forming a rude net-work) on a white ground: umbones tumid; lunule ovate: inside yellowish. 1.—*Indian Seas*.

C. TIGRINA. *Lam.* 34.—*An. Ch. f.* 374, 5.—*Val. Amb. t.* 15. *f.* 16. Ovate, smooth in the middle, and grooved at the sides, white, with small unequal scattered dark brown triangular spots; lunule small, heart-shaped, and brown.  $1\frac{1}{2}$ .—*Amboyne*.

C. VENETIANA. *Lam.* 35.—*Phil. p.* 40. *t.* 4. *f.* 8.—VENUS RUDIS. *Poli. 1. t.* 20. *f.* 15, 6.—*Del. t.* 9. *f.* 9. Obliquely heart-shaped, ventricose, transversely striated, white with yellow and rufous rays, composed partly of broken angular spots; depressions brownish red: inside whitish.  $\frac{2}{3}$ .—*Lagunes of Chioggia, near Venice*.

C. JUVENILIS. *Lam.* 36.—VENUS J. *Gmel.* 3287.—*D. p.* 196.—*Ch. f.* 405.—*E. t.* 280. *f.* 2.—*W. t.* 8. *f.* 85. Orbicular, convex, white with brown spots forming indistinct rays, and rounded concentric striæ, which become coarser and ridge-like at each extremity; lunule small heart-shaped and sunken.—*Variety.* (*Rufa. Lam.* 37.) Reddish fulvous, with two darker rays.  $1\frac{1}{2}$ .—*India*.

C. GUINEENSIS.\* *Lam.* 38.—*Turt. B. p.* 161.—VENUS G. *Gmel.* 3270.—VENUS CIRCINATA. *D. p.* 169.—*Ch. f.* 311.—*Born. t.* 4. *f.* 8.—*W. t.* 7. *f.* 24. Obliquely heart-shaped, with raised ridge-like concentric striæ; both depressions dark purple and unarmed, reddish or purplish, with white rays. *Variety.* Whitish with reddish rays. (*E.* 265. *f.* 1.)—*Variety.* Uniform white.—*W. Africa*.—*Shape of next*.<sup>2</sup>

C. DIONE. *Lam.* 39.—*Reeve. t.* 71. *f.* 1.—VENUS D. *Linn.* 1125.—*D. p.* 158.—*Ch. f.* 271, 2, 3.—*W. t.* 7. *f.* 1.—*E. t.* 275. *f.* 1. Obliquely heart-shaped, transversely ribbed, with a double row of spines on the anterior slope, reddish purple.  $1\frac{1}{2}$ . .  $1\frac{1}{2}$ .—

<sup>1</sup> So likewise is LORENZIANA of Chemnitz, (*f.* 1961, 2.—*D. p.* 184.—*W. t.* 7. *f.* 59.) according to Mr. Gray.

<sup>2</sup> We have copied Schröter's figure of Gmelin's VENUS CALISTE, *W. t.* 7. *f.* 27.—*D. p.* 170.) which is described as resembling this species. It is probably then a Cytherea, but I have not recognized the shell.

*Variety.* (Zool. P. 1835.—C. LUPINARIA. Lesson.) Pale; the anterior slope and lunule violet; with concentric lines which posteriorly are lamellar, and elsewhere rounded and irregular; spines very long and distant.—*Variety.* C. Violet, smooth, except at the umbones and posterior side which are somewhat lamellated; spines very distant, thickish, moderate in length.—W. Indies and S. America.

C. ARABICA. Lam. 40.—Del. t. 9. f. 4.—V. PECTUNCULUS. D p. 184.—W. t. 7. f. 58.—Ch. f. 1963. to 70.—V. CALLYPIGA. Born. t. 5. f. 1. (fide Deshayes).—D. p. 186.—W. t. 8. f. 63. Obovate heart-shaped, very convex, thick, inequilateral, grooved transversely, (the grooves often becoming obsolete in the centre,) extremely variable in colouring, being covered with brown angular markings on a pale ground, and sometimes with rays of spots on a paler ground; lunule lanceolate, ill-defined.—*Variety.* Brown with scattered white spots. 1.—Red Sea.

C. TRIMACULATA. Lam. 41.—An. VENUS PHRYNE. Gmel. no. 21. ? Somewhat rounded heart-shaped, the ventral edge much arcuated, with strong concentric striæ, rayed with rich brown and white; lunule and lozenge dark brown, the latter sub-cordiform oval, ill-defined: inside white, with a livid brown stain on each muscular scar and beneath the beaks 1.—Indian Seas?

C. IMMACULATA. Lam. 42. Rounded heart-shaped, anterior end the shorter and more tumid, white within and without, and striated transversely; lunule somewhat heart shaped. 1½.—Bears some resemblance to List. t. 263. f. 99. (W. t. 6. f. 11.)<sup>3</sup>

C. PELLUCIDA. Lam. 43. Oval, thin, pellucid, white with transverse fulvous letter-like lines; beaks rufous and obliquely inflected: a violet spot at the base of its lunule. 1½.—New Holland.

C. HEPATICA. Lam. 44.—Del. t. 9. f. 8. Obliquely rounded, inequilateral, delicately striated transversely, and marked longitudinally with minute lineoles: whitish within and without, with livid violet stains: lunule almost obsolete. 1¼.—South Seas.

C. LUCINALIS. Lam. 45.—Del. t. 9. f. 2. Lenticular, sub-equilateral, inflected with a longitudinal groove on the anterior side, with raised concentric striæ and minute uninterrupted longitudinal lineoles, very pale violet and rufous at the beaks: lunule defined by an impressed line: livid within. 1½.

C. LUNARIS. Lam. 46.—VENUS LUPINUS. Poli. 2. t. 21. f. 8.—Payr. Cat. no. 80. Sub-orbicular, oblique, white, with concentric transverse striæ; beaks stained with purple; lunule heart-shaped 1¼.—Gulf of Tarrentum.<sup>4</sup>

<sup>3</sup> We have not recognized this species, but give a copy of the shell said by Lamarck to resemble it.

<sup>4</sup> Philippi considers this as a variety of Lineta.

subcordate, rather thick, solid, smooth, pale brown, with unequal white rays; anterior slope punctulate: lunule lanceolate, purple brown; inside white, the margin purplish: posterior lateral tooth short, conical, close.  $2\frac{1}{2}$ .

C. APICALIS.—CHIONE A. *Gray in Analyst*, 1838. Oblong, subcordate, rather thick, solid, smooth, yellowish white, with a few arrow-shaped pale brown spots above. Umbones reddish brown: inside white.

C. BICOLOR.—TRIGONA B. *Gray in Analyst*, 1838. Triangular, equilateral, rather compressed, whitish or pale fawn-coloured, pellucid: slopes flattened, the interior stained internally with purple, ventral edge scarcely arcuated; lunule large, well-defined, lanceolate; inside flesh-coloured teeth as in *Planulata*.  $\frac{4}{5}$ ..1.—*Africa*.

C. PULCHRA. *Gray in W. S. t. 2. f. 16*. Ovate heart-shaped, moderately convex, thickish, posteriorly grooved; polished, variable in colouring, usually pale buff with livid fawn-coloured rays and marblings: anterior slope with dark chestnut transverse waved lines: lunule elongated heart-shaped: inside stained with purple, margin entire. 1..  $1\frac{1}{2}$ .—*S. Seas*.

C. LUBRICA *Brod. Z. P.* 1835. Rounded heart-shaped, glossy, rather violet, anteriorly with obtusely concentric sub-elevated lines, which are small and close at the umbones, but wider and more distant as they recede: inside white.  $1\frac{2}{3}$ ..  $1\frac{7}{10}$ .—*C. America*.

C. ROSEA. *Brod. and Sow. Z. J. 4.—Beechey. Zool. t. 43. f. 7*. Obliquely cordate, subcompressed, purplish-rosy, concentrically grooved, posteriorly with distant lamellæ, anteriorly with very short broadish spines; inside white.  $1\frac{3}{10}$ ..  $1\frac{7}{10}$ .—*Pacific*.—*Bears much resemblance to a spineless Dione; usually with a white ray on each slope*.

C. TORTUOSA. *Brod. Z. P.* 1835. Obliquely heart-shaped, anteriorly somewhat lobed, white slightly tinged with chestnut towards the umbones, with numerous blunt and coarse anteriorly irregular concentric lines.  $1\frac{1}{2}$ ..  $1\frac{3}{4}$ .—*Panama*.—*Variety*. Elegantly and sub-radiatingly painted with rufous and rose-colour.

C. SQUALIDA. *Sow. Z. P.* 1835. Ovate subcordate, thickish, smooth, pale brown, with sometimes irregular darker spots; epidermis brown: anterior side the longer and subacuminated near the ventral portion.—*Variety*. With two rays. (BIRADIATA. *Sow. in Beechey. Z. t. 43. f. 5*.)  $2$ ..  $2\frac{7}{10}$ .—*W. Columbia*.—*Not unlike Maculosa*.

C. HIEROGLYPHICA. *Conr. Jour. A. N. S. Phil. 7. p. 253. t. 19. f. 22*. Sub-triangular, with concentric striæ distinct only at the margins; (white, often with brown triangular spots;) anteriorly longer, sub-cuneiform and rounded at the extremity: lunule cordate, defined by an impressed line.  $1\frac{1}{2}$ .—*Sandwich Isles*.

**C. VULNERATA.** *Brod. Z. P.* 1835. Sub-globular, with very numerous smooth concentric lines, whitish, with here and there purple-red narrow bands; lunule and anterior area blackish-purple, ventral margin red, sub crenulated within; epidermis brownish; inside white suffused with pink.  $1\frac{2}{3} \dots 1\frac{1}{3}$ .—*C. America*.

**C. PANNOSA.** *Sow. Z. P.* 1835. Obovate, thickish, smooth, whitish, obscurely painted with lurid spots, streaks, or angular lines: apices rather prominent.  $\frac{2}{10} \dots 1\frac{2}{10}$ .—*Chili*.

**C. UNICOLOR.** *Sow. Z. P.* 1835. Ovate, sub-cordiform, thickish, brownish, smooth and polished, but the sides concentrically grooved; anterior side the longer, sub-acuminated towards the ventral edge, which is smooth; purplish within.—*Variety*. Larger and whitish.  $1\frac{2}{10} \dots 1\frac{6}{10}$ .—*C. America*.

**C. ARGENTINA.** *Sow. Z. P.* 1835. Sub triangular, white, smooth, sub-equilateral, posterior side rather shorter, anterior sub-acuminated; anterior dorsal edge straightish, sloping; ventral margin rounded: epidermis thin, silvery-white, horny, velvety without.  $2\frac{1}{10} \dots 2\frac{1}{10}$ .—*C. America*.

**C. CONVEXA.** *Say. Journ. A. N. S. Phil.* 4. t. 12. f. 3.—*Gould. Mas. p.* 84. f. 49.—*List. t.* 273. f. 109. ? Oval, sub-cordate, inequilateral, thinnish, chalky-white, very convex, rounded at the sides, marked with coarse lines of growth: ligament long and somewhat sunken: beaks prominent and recurved; lunule distinct, cordate: inside polished, milk-white.  $1\frac{1}{2} \dots 1\frac{1}{2}$ .—*N. America*.

**C. PRORA.** *Conr. Journ. A. N. S. Phil.* 7. p. 253. t. 19. f. 18. Inflated, polished, white, ovate-subcordate; posterior side short, sub-cuneiform, and sharply angulated at the extremity, which is much elevated, its dorsal edge straight or slightly concave: ventral edge well rounded; lunule very slightly impressed, bounded by a broad indistinct carina.  $1\frac{2}{3}$ .—*Pacific*.

**C. FLORIDELLA.**—**CHIONE F.** *Gray in Analyst.* 1838. Ovate-sub-cuneiform, depressed, much produced and attenuated anteriorly, the ligamental edge sloping in almost a straight line to the anterior extremity: posteriorly short and rounded; ventral edge arcuated: smooth (except on the anterior slope, which is concentrically grooved,) polished, buff or drab, with more or less numerous and distinct lighter rays interrupted by dark angulated or dotted markings: lunule lanceolate; inside orange, margin entire; anterior tooth rudimentary.  $\frac{2}{3} \dots 1\frac{1}{3}$ .—*Senegal*.

**C. PLANULATA.** *Brod. and Sow. Z. J.* 5. p. 48.—*Beechey. Zool. t.* 43. f. 6.—*Reeve. t.* 69. f. 2.—*Sow. G. f.* 2. Triangular, rather depressed, sub-equilateral, the base and lower angles rounded, pale yellowish, with many diverging fuscous rays: inside white varied with brownish violet, anterior tooth so remote as almost to appear a lateral one.—*Variety*. More equilateral, rather more



gibbose, closed posteriorly, the rays spread all over the shell.  
 $\frac{1}{10} \dots 1\frac{1}{5}$ .—*Mazatlan*.

C. *RADIATA*. Sow. *Z. P.* 1835. Sub-triangular, sub-equilateral, gibbous, rather pale, rayed and waved with brown, smooth, covered with a more or less thick horn-like epidermis; the sides rounded towards the straightish ventral margin; no heart-shaped lunule; four cardinal teeth.  $2 \dots 2\frac{1}{2}$ .—*W. Columbia*.—*Very like Planulata, but the rays are composed of angulated markings*.

C. *CRASSALELLOIDES*.—*TRIGONA*. C. *Conrad. Journ. A. N. S. Phil.* 7. p. 253. t. 19. f. 17. Equilateral, triangular, transverse, thick, convex, depressed, whitish (often rayed with brown), lunule undefined; anterior extremity truncated; ligament short, very broad, and elevated; apex very prominent, beaks not oblique; cardinal teeth very thick and prominent, anterior tooth elongated and thick, the sinus of the pallear scar angular. 7.—*California*.

C. *STULTORUM*.—*TRIGONA* S. *Gray in Analyst.* 1838.—*DONAX* S. *W. S. t.* 2. f. 2. Sub-triangular, oval, equilateral, convex, rather thick, smooth, glossy, rounded at the sides, ventral edge slightly arcuated; variable in colouring, sometimes with a single central short white ray on a very pale livid ground, sometimes with broader or narrower livid rays on whitish ground: anterior slope livid: inside white, the lateral and posterior teeth connected.  $1 \dots 1\frac{1}{2}$ .—*Indian Seas? S. America?*

C. *COSTATA*.—*VENUS* C. *Chemnitz f.* 1775.—*W. t.* 7. f. 39.—*D. p.* 175.—*Young*.—C. *ERYCINELLA*. *Lam.* Oval, sub-cordate, white, with pale livid rays under a yellowish periostraca, thick, strong, glossy, with transverse broad well raised rather shelving ribs, which are flat above and about twice the breadth of the interstices: lunule elongated, heart-shaped, smooth, and as well as the anterior slope white lineated with livid red: anterior edge obtuse: inside uniform white.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Pacific?*—*Closely allied to Erycina but more oval, its ribs distinct and its margin never as in that species stained with orange*.

C. *KINGII*.<sup>1</sup>—*VENUS* K. *Gray in W. S. f.* 9. Ovate, sub-cor-

<sup>1</sup> An orbicular and usually colourless group seems, with justice, to have been dissevered by Gray, Sowerby, &c. from the genus we have been describing.

#### ARTEMIS.—POLI.

*Orbicular, edge entire; posterior tooth of the left valve rudimentary; siphonal inflection angular, ascending, acute.*

The following species are described by Mr Gray in his valuable paper on the Cythereanæ, in the Analyst for 1838.

A. *PONDEROSA*. *Gray*. Orbicular, rather convex, very thick,

date, thick, posteriorly shorter, concentrically sub-striated, white, with the grouped linear rays and the anterior slope tawny-chestnut : no lunule : inside uniform white.  $1\frac{1}{2}$ .—*South Seas*.

C. DAMAOIDES.—VENUS D. *Gray in W. S. f.* 17. Sub-triangular, convex, thickish ; anteriorly rather shorter and obtusely angulated at the ventral edge ; posteriorly broader and rounded ; ventral edge very convex ; under a pale drab epidermis, white, with rather broad tawny-chestnut rays : lunule indistinct, lanceolate : inside uniform white, in one valve three cardinal and a sub-lateral tooth, two cardinal in the other.  $1\frac{1}{2}$ .—*E. Indies*.

**\*\* Inner margin crenulated or toothed.**

C. PECTINATA. *Lam.* 63.—VENUS P. *Lin.* 1135.—*W. t.* 8. *f.* 90.—V. DISCORS. *D. p.* 199.—*Bl. t.* 74. *f.* 4.—*E. t.* 271. *f.* 1.—*List. t.* 312. *f.* 148.—*Ch. f.* 418. Ovate, mottled with white

solid, heavy : smooth, covered with a pale yellowish periostraca ; umbones and extremities concentrically grooved : disc opaque white : hinge margin very thick ; posterior tooth rudimentary ; lunule deep, short.—*Like Concentrica, but heavier, larger, and less grooved.*

A. TUMIDA. *Gray.* Sub-orbicular, convex, solid, rather pellucid, white, with close fine regular concentric ridges, the alternate ones becoming somewhat broader on the anterior side : lunule short, cordate ; anterior slope rather short, slightly curved.

A. BRUGUIERI. *Gray.*—*E. t.* 277. *f.* 1. Sub-orbicular, compressed, thin, white, with rather close concentric ridges, the alternate ones ending before they reach the anterior slope, the front and hinder ends of the larger ones laminar, and forming teeth-like processes on the edge of the anterior slope : lunule small, cordate.

A. BILUNULATA. *Gray.* Sub-orbicular, compressed, pale whitish, with obscure brown rays and close regular concentric ridges, which are slightly elevated at each end, and form a series of small teeth on the edge of the anterior slope, and others on the edge of a large lanceolate lunule-like smooth space surrounding the small and cordate lunule.

A. AFRICANA. *Gray.* Orbicular, rather convex, thin, brownish-white, rather pellucid, with regular close very fine concentric grooves : lunule short and cordate ; inside brownish or pale rose-coloured, polished.—*Variety.* Thinner, nearly smooth, striae very fine.  $\frac{2}{5}$ .—*Senegal, &c.*

Those who may adopt *Artemis* as a genus, and not merely as a section of *Cytherea*, must add to these the *C. Excisa*, *Concentrica*, *Exoleta*, *Linota*, *Lunaris*, *Histrio*, *Juvenilis*, *Prostrata*, &c., of our catalogue.

and reddish-brown, with numerous nodulous ribs, the central being longitudinal, the lateral oblique, curved, and forked: lunule ovate.  $1\frac{1}{2}$ .—*Indian Ocean*.

C. GIBBIA. *Lam.* 64.—VENUS PECTINATA. *D. p.* 198.—*Ch. f.* 415.—*List. t.* 313. (*young*).—*E. t.* 271. *f.* 4.—*W. t.* 8. *f.* 91. Somewhat heart-shaped, obovate, in age extremely gibbous, white, rarely spotted, with thick and crenated longitudinal ribs, which diminish in size as they approach the posterior end and diverge on the anterior slope.—*Variety.* (*Ch. f.* 416.) Spotted with chesnut and lineated, and somewhat tinged with violet on the anterior slope. 2.—*Indian Ocean*.

C. RANELLA. *Lam.* 65.—*E. t.* 271. *f.* 5? Roundish-ovate, depressed, white, spotted with reddish-brown on the anterior slope, and marked with longitudinal thickish crenated furrows: both depressions narrow and coloured, the posterior violet and oblong.—(*"The museum specimen referred to by Lamarck is the young of Gibbia,—ought not this species to be suppressed?"—Deshayes.*)

C. DIVARICATA. *Lam.* 66.—VENUS D. *Lin.* 3277.—*D. p.* 200.—*Ch. f.* 316.—*List. t.* 310. *f.* 146.—*E. t.* 271. *f.* 5.—*W. t.* 8. *f.* 94. Rounded heart-shaped, rather convex, whitish, with angular brown or fulvous spots and markings; with depressed narrow longitudinal ribs, obliquely divaricating from the centre, and disappearing posteriorly where the transverse striæ commence.—*Variety.* (C. TESTUDINALIS. *Lam.* 67.—*E. t.* 274. *f.* 2.) More flattened, brownish rufous with indistinct rays: anterior slope narrow and mottled. 2.—*Indian Ocean*.

C. EQUIVOCA. *Chem. f.* 1980.—VENUS E. *D. p.* 200.—*W. t.* 8. *f.* 93.—C. PLACUNELLA. *Lam.* 69.—*E. t.* 271. *f.* 3. Rounded ovate, rather depressed, whitish, with finer or coarser transverse striæ, which are crossed by radiating angularly diverging furrows.—*Variety.* (C. CUNEATA. *Lam.* 68.) Somewhat wedge-shaped, with the depressions purplish brown and only grooved at the umbones.—*Variety.* (C. NUMMULINA. *Lam.* 58.) More rounded, with the beaks rather acute and somewhat prominent, and their vicinity stained with purplish-black, the furrows not extending to the margin.  $1\frac{1}{2}$ .—*New Holland*.

C. RUGIFERA. *Lam.* 70.—VENUS SCRIPTA. *var. β. Gmel.* 3286.—V. CORRUGATA. *D. p.* 201.—*Ch. f.* 400, 1.—*W. t.* 8. *f.* 96. Rounded triangular, rather flat, whitish, often covered with very delicate short ferruginous lines, and the slopes ferruginous; with rather distant plait-like concentric grooves: beaks depressed and wrinkled; reddish-fulvous within.  $1\frac{1}{2}$ .—*Red Sea*.

C. PLICATINA. *Lam.* 71.—*Del. t.* 9. *f.* 7.—*An. E. t.* 279. *f.* 3. Rounded triangular, rather depressed, whitish, with small angularly waved flexuous lines and transverse plait-like grooves, and the anterior slope lettered; beaks slightly compressed and not wrinkled: within white.  $1\frac{1}{2}$ .—*New Holland*.

C. LUNULARIS.<sup>1</sup> *Lam.* 74.—*Del. t.* 9. *f.* 6. Sub-orbicular heart-shaped, longer than broad, transversely grooved, livid, rayed towards the margin: the lunule with a white triangular spot at its base: inside white.  $1\frac{1}{2}$ .—*America?*

C. CYGNUS. *Lam.* 77. Heart-shaped, tumid, uniform white within and without, with raised transverse striæ which become smaller towards the margin; the beaks inclining towards the heart-shaped lunule.  $1\frac{1}{2}$ .—*Mediterranean.*

C. DENTARIA. *Lam.* 78. Triangular broadly, transverse, pale fulvous with white rays, and the anterior side with a reddish-brown spot more apparent in the interior.  $2\frac{1}{2}$ .—*Rio Janeiro.*

C. EFFOSSA. *Nobis. in Z. P.* 1842. Oval, sub-cordiform, sub-equilateral, thick, glossy, convex, with strong rather distant transverse grooves, the intervening spaces flattened, pale livid variegated by darker zigzag veins; lunule impressed and lanceolate: lozenge deeply excavated, the sides smooth, white with wavy transverse chestnut bands: inner disc stained with purple; inner margin distinctly crenated.  $\frac{3}{4}$ ..  $1\frac{1}{2}$ .

C. EXCAVATA. *Nobis in Z. P.* 1842. Rounded ovate, sub-equilateral, posteriorly expanded, anteriorly narrowed by the much arcuated ventral margin sweeping obliquely upward to meet the posterior edge; thick, smooth, glossy, pale fulvous, more or less distinctly marbled with livid angular markings: lunule lanceolate: lozenge very deeply excavated, the sides flattened, white with a few livid veins: inner disc with a pale crimson stain, inner margin finely crenulated.  $1$ ..  $1\frac{1}{2}$ .

C. SOLANDRI. *Gray in Ann. Phil.*—C. HYANS. *W. S. t.* 2. *f.* 11. Elliptical-sub-cordiform, thick, very convex, sub-equilateral, smooth, polished, white with angular clouded livid purple markings, especially near the umbones: lunule and lozenge lanceolate, the former indistinct, the latter excavated: margin crenulated.  $1\frac{1}{2}$ ..  $1\frac{1}{2}$ .—*China.*—*Akin with the two preceding to Donax Scripta.*

#### VENUS.

*Equivalve, inequilateral, transverse, or sub-orbicular; hinge with three teeth in both valves, all approximate, the lateral ones divergent at their summits; ligament external, concealing the lozenge.*

\* *Inner margin crenulated or toothed.*

#### SECTION A.—*With lamellar striæ.*

V. PUERPERA. *Lin. Mantissa. p.* 545.—*Lam.* 1. (*excluding var. 2.*)—*D. p.* 188.—*Ch. f.* 388, 9.—*E. t.* 278. *f.* 1.—*Reeve.*

<sup>1</sup> C. FLEXUOSA. *Lam.* 72.—MACRODON. 73.—SQUAMOSA. 75, and CARDILLA, 76, belong to Venus.

t. 67.—*List.* t. 336. f. 173.—*Knorr.* 6. t. 10. f. 1.—V. RETICULATA. *W.* t. 8. f. 66. Rounded heart-shaped, strong, gibbous, whitish with brown rays, speckled near the beaks and stained with the same colour on the anterior side, which is angulated and its edge almost direct and straight; decussated by tolerably close-set fimbriated membranaceous lamellæ and crowded obtuse radiating riblets; ventral edge arcuated but not rounded, ligamental sloping; lunule heart-shaped and projecting: one of the lips overlapping the base of the anterior depression: within with an anterior purple stain. 3.—*Indian Ocean.*

V. LISTERI.—*Dosina L. Gray in Analyst.* 1838.—V. PUERPERA. VAR. 2. *Lam.*—*E.* t. 278. f. 2.—V. PUERPERA. *W.* t. 10. f. 67.—*Young, V. RETICULATA. Lam (not Lin.)* Closely resembling the last, but the membranaceous lamellæ closer, finer, and more fimbriated, especially on the anterior side, which is not stained with brown, nor is its margin straight: ligamental edge scarcely at all sloping: inside not stained with purple. 3.—*Indian Seas.*—*Colour usually white with ferruginous zigzag markings.*

V. PYGMEA. *Lam.* 3. Small, ovate, rather depressed, with curled and wavy transverse ridges, somewhat decussated, whitish spotted with brown and rufous: anterior slope lamellar, beaks rosy.  $\frac{3}{4}$ .—*W. Indies.*

V. RETICULATA. *Lin. Mus. Ulr.* p. 503.—*D.* p. 188.—V. CORBIS. *Lam.* 4.—*Ch.* f. 382, 3.—*E.* t. 276. f. 4.—*List.* t. 335. f. 172. Heart-shaped, slightly rounded, tumid, white, with pale chestnut or brownish spots often disposed in rays, and concentric rather depressed, somewhat granular ridges which are decussated by longitudinal raised ribs; the profound and wrinkled lunule defined by a groove; white within, with the margin indistinctly crenulated and the hinge saffron-coloured or stained with rose. 2.. 2 $\frac{1}{2}$ .—*Indian Ocean.*

V. CRENULATA. *Lam.* 5.—*D.* p. 189.—*W.* t. 8. f. 68.—V. CRENATA. *Gmel.* 3279.—*Ch.* f. 385. Heart-shaped, with transverse moderately elevated membranaceous ridges, which are crenulated by indistinct longitudinal striæ, whitish with tawny spots disposed in rays, and the lunule brown and widely heart-shaped; uniform white within and the posterior margin strongly crenulated. 1 $\frac{3}{4}$ .—*India.*

V. REFLEXA. *Mont. sup.* p. 40. and 168.—*Turt. B.* t. 10. f. 1, 2.—V. DISCINA. *Lam.* 6.—*Phil.* p. 42.—*Bl.* t. 75. f. 6.—V. RUSTICUCCI. *Payr.* f. 26, 7, 8. Rounded obovate, sub-cordate, compressed, anterior slope excavated, very pale flesh-colour with obsolete red spots forming indistinct rays; concentric ridges posteriorly rather depressed, rising into thin waved and deflected plates anteriorly: lunule elongated heart-shaped, wrinkled. 1 $\frac{3}{4}$ .—*Europe.*

V. VERRUCOSA.\* *Lin.* 1130.—*D.* p. 163.—*Lam.* 7.—*Ch.* f.

299, 300.—*List. t.* 284. *f.* 122.—*Don. t.* 44.—*B. t.* 4. *f.* 7.—*W. t.* 7. *f.* 12. Rounded heart-shaped, tumid, whitish often tinged with red, strong, with coarse transverse ribs which become warty at the extremities, and indistinct longitudinal striæ which are usually apparent at the umbones; anterior slope more or less spotted on one side: lunule heart-shaped and wrinkled: white within. Diameter  $1\frac{1}{2}$ .—*Europe*.<sup>1</sup>

V. RUGOSA. *Gmel.* 3276.—*Lam.* 8.—V. DYSERA. *var. β.* *Lin.* 1130.—V. RIGIDA. *D.* p. 164.—*Ch. f.* 303.—*E. t.* 273. *f.* 4.—*List. t.* 286. *f.* 123.—*W. t.* 7. *f.* 13. Rounded heart-shaped, very ventricose, with numerous transverse thin entire membranaceous ridges, whitish, irregularly stained with spots or short angulated streaks of pale brown; anterior slope in one valve glabrous, lunule heart-shaped but very short and broad: within uniform white, with the rudiments of a fourth tooth and its receptacle.  $2\frac{1}{2}$ .—*Indian Seas*.

V. CASINA.\* *Lin.* 1130.—*D.* p. 165.—*Lam.* 9.—*Ch. f.* 301, 2.—*W. t.* 7. *f.* 14.—*Don. t.* 149.—*Turt. B. t.* 3. *f.* 1. Rounded heart-shaped, slightly compressed, whitish or very pale fulvous, becoming reddish at the beaks, and on the posterior side whose depression is elongated heart-shaped; marked with thin unequal transverse entire ridges which curve towards the beaks; white within. Diameter 2.—*Europe*.

V. CREBRISULCA. *Lam.* 10.—*E. t.* 276. *f.* 1. Rounded heart-shaped, whitish with rufous spots and numerous transverse obtuse ribs, which are almost elevated into ridges on the anterior side; lunule oblong heart-shaped, almost lamellar, rufous with a small white spot at its base; the anterior slope is sunken, linear, margined with unequal tubercles, and often lettered on one side.  $1\frac{1}{2}$ .—*Indian Ocean*.<sup>2</sup>

V. PLICATA. *Gmel.* 3276.—*D.* p. 162.—*Lam.* 11.—*W. t.* 7. *f.* 9.—*Ch. f.* 295, 6, 7.—*E. t.* 275. *f.* 3.—*Reeve. t.* 68. *f.* 6. Somewhat heart-shaped, angulated towards the anterior end, rather

<sup>1</sup> V. SUBCORDATA. *Mont. t.* 3. *f.* 1.—*W. t.* 7. *f.* 16. The copy we have made from this figure much resembles the young of *Verrucosa*. We have not, however, seen authenticated specimens.

<sup>2</sup> A species bearing some slight resemblance to this shell, but a specimen of which we have not been fortunate enough to procure, (a copy of *Chemnitz's* figure is given,) is the V. CINCTA. *Ch. f.* 387.—*D.* p. 190.—*W. t.* 8. *f.* 70. Triangular heart-shaped, ventricose, with broad transverse ribs and the interstices crenulated, white variegated with reddish-brown angulated spots; lunule cordiform: inside white stained with purple under the umbones, margin crenulated.

compressed, pale pink or flesh-colour, with distant transverse smooth ridges: depressions reddish: anterior slope glabrous and sunken, lunule heart-shaped.  $2\frac{1}{2}$ .—*Indian Ocean*.—*Senegal*?

V. CANCELLATA.\* *Lam.* 12.—*Reeve. t.* 68. *f.* 2.—V. CINGENDA. *D. p.* 161.—*W. t.* 7. *f.* 6.—*Ch. f.* 287, 8, 9.—*E. t.* 268. *f.* 1.—*Turt. Biv. t.* 10. *f.* 3. Heart-shaped, with rather distant transverse crenulated membranaceous ridges and raised longitudinal rib-like striæ in their interstices; whitish usually tinged with brown or flesh-colour, spotted or indistinctly rayed with dark brown; lunule dark brown and heart-shaped; anterior slope in one of the valves smooth, brown or striped with brown. 1.—*W. Indies*.

V. SUBROSTRATA. *Lam.* 13.—*An. Reeve. t.* 68. *f.* 4. Heart-shaped, broader than the last, slightly beaked anteriorly, cancellated by longitudinal striæ, and numerous transverse regular equidistant fine ridges, whitish with rufous or dark spots disposed in rays; lunule heart-shaped: white within.  $1\frac{1}{2}$ .—*W. Indies*? *E. Indies*?—*Closely allied to Cancellata*.

V. FASCIATA.\* *Donovan. t.* 170.—*D. p.* 159.—*Ch. f.* 277, 8.—*E. t.* 276. *f.* 2.—*W. t.* 7. *f.* 3. Rounded heart-shaped, depressed, with smooth thick transverse flattened ribs of nearly uniform thickness throughout, white with chestnut spots disposed in three rays, entirely reddish-brown, or yellowish either with or without three reddish-brown or many red rays; beaks prominent, lunule ovate, sunken, and very delicately striated; crenations of the margin very fine. Diameter 1.—*Europe, Mediterranean*.

V. PAPHIA. *Lin.* 1129.—*D. p.* 159.—*W. t.* 7. *f.* 2.—*Ch. f.* 274, 5, 6.—*E. t.* 275. *f.* 5.—*Reeve. t.* 68. *f.* 1. Triangular heart-shaped, thick, solid, white covered with small rufous zigzag lines, with thick broad transverse ribs which become suddenly narrower on the anterior side; lunule ovate heart-shaped, sunken, finely striated, and either red or with lettered markings: margin very finely toothed. Diameter  $1\frac{1}{2}$ .—*W. Indies*.

V. THIARA. *D. p.* 162.—*Ch. f.* 279, 280.—*Gualt. t.* 88. *D.* —*E. t.* 275. *f.* 4.—*Reeve. t.* 67. *f.* 3.—*W. t.* 7. *f.* 8. Triangular ovate, somewhat heart-shaped, depressed, white with usually three reddish-violet rays, with a few distant much elevated transverse membranaceous ridges, which become larger as they approach the anterior side, where they assume the appearance of large scales surrounding the anterior slope: lunule heart-shaped and sunken; within with a violet posterior stain and the margin finely crenated.  $1\frac{1}{2}$ . .  $1\frac{1}{2}$ .—*E. Indies*.

V. YATEI. *Gray in Yates, N. Z.* Ovate, rather truncated anteriorly, solid, brown, with rather distant thin concentric laminæ, which are higher behind and before, and waved: hinder slope depressed, lozenge-shaped: lunule laminar.—*New Zealand*.—*Like*

*V. Plicata*, but rather shorter, the concentric plates higher, wared and torn at the edge.

V. LAMARCKII. Gray in *B. M.*—V. SUBROSTRATA. *Reev.* t. 68. f. 4. (not *Lam.*)—*W. S.* t. 2. f. 7.—V. CANCELLATA. *Chem.* f. 306, 7. (not *Lam.*)—*E.* t. 267. f. 7. Oval-cordate, ventricose, anterior edge narrowed and obtusely sub-truncated at the extremity, ventral edge well arcuated; strong, white, with (usually) about three interrupted chestnut rays, and regular, close, and acute lamellæ, which, as well as the interstices, are traversed by close-set radiating riblets: lunule brown, cordiform, and marked with radiating sulci: inside pale scarlet. 1..1½.—*Red Sea.*—Teeth nearly those of a *Cytherea*.

V. GNIDIA. *Brod. & Sow. Z. J.* 4.—*Beechey. Zool.* t. 41. f. 3.—*Reeve, t.* 68. f. 5.—*Del. t.* 19. f. 1. Equivalve, subventricose, reddish fawn coloured but usually paler, with distant concentric muricated ridges which posteriorly are more spinous: radiating striæ in pairs, a narrower one intervening: inside white, the margin finely crenated. 1½..2½.—*Pacific.*

V. DYSERA. *Chem. f.* 291, 2.—*An Lin.* 1130?—*D. p.* 161.—*Knorr. 4. t.* 24. f. 3.—*W. t.* 7. f. 7. Rounded heart-shaped, convex, beaks greatly curved, whitish, with distant thin concentric lamellæ; anterior slope shelving inwards and excavated; posteriorly with a slight flexuosity: lunule heart-shaped: inside with a brown stain adjoining the anterior muscular scar, the margin crenulated. 1.1.—*Indian Seas?*

V. BERRYII. Gray in *W. S. t.* 2. f. 2. Very obliquely heart-shaped, very inequilateral, dark flesh colour with white concentric rather distant narrow lamellæ, which become obsolete anteriorly; anterior slope concave, white, smooth, sharp-edged; lunule lanceolate: inside stained with purple except on the disc, margin very finely crenulated. ¾..1.

V. NUTTALLII. *Conr. Jour. A. N. S. Phil.* 7. p. 250. t. 19. f. 15. Triangular, equilateral, thick, white, convex depressed, with radiating flattened ribs, an alternating line in the interstices, and about fourteen remote reflected concentric ribs; teeth large and thick, inside with an anterior purple spot. 2.—*California.*

V. NEGLECTA. *Sow. in Beechey. Zool. p.* 151. t. 41. f. 8. Lenticular, nearly circular, with strong radiating striæ, and elevated concentric ridges, posterior side shorter than the anterior which is rather sloped; dorsal edge with an elevated ridge, at which the concentric ribs (which are crenulated beneath) begin, within which is a broadish sloping somewhat smooth area; brownish white with angular dark brown marks and spots: inside white varied with purple particularly anteriorly. 1½.—*C. America.*

V. ORNATISSIMA. *Brod. Z. P.* 1835. Subglobular, with numerous radiating ribs, which are depressed in the middle towards



the ventral edge, and crisply plaited much raised concentric frill-like lamellæ; very pale chesnut.  $1\frac{1}{2}$ .. $1\frac{3}{4}$ .—*Panama*.

V. CALIFORNIENSIS. *Broch. Z. P.* 1835. Globose, thick, whitish, with numerous concentric thickish and laterally subcrenulated ridges, cancellated by numerous ribs towards the beaks but approximate ventrally, anterior area sunken and large; lunule large and tumid; inside white, the anterior scars stained with violet.  $2\frac{1}{10}$ .. $2\frac{9}{10}$ .—*California*.

SECTION B.—*No lamellar striæ.*

V. GRANULATA.\* *Gmel.* 3277.—*D. p.* 171.—*W. t.* 7. *f.* 29.—*Lam.* 14.—*Turt. B. p.* 145.—*Ch. f.* 313.—*List. t.* 338. *f.* 175.—*E. t.* 272. *f.* 3.—*Don. t.* 83.—V. VIOLACEA. *Gmel.* 3288. Roundish heart-shaped, with longitudinal grooves decussated by raised transverse striæ, whitish with spotted rays and streaks of purplish brown and the anterior slope lettered; lunule heart-shaped and usually darker: spotted with violet within, especially on the anterior side.—*Variety*—Yellowish and spotted.—*Diam.*  $\frac{1}{2}$ .—*W. Indies*.—*Exterior not unlike the common cockle*.

V. PECTORINA. *Lam.* 15.—*Del. t.* 10. *f.* 11.—V. ELEGANS. *W. S. t.* 2. *f.* 3. Ovate, heart-shaped, with longitudinal radiating narrow ribs decussated by transverse striæ, white or pale fulvous with brown letter-like markings on the anterior slope only; lunule large heart-shaped and not coloured: white and not spotted within.  $1\frac{1}{2}$ .—*America?*

V. MARICA. *Lin.* 1130.—*D. p.* 160.—*Lam.* 16.—*Ch. f.* 282, 3, 4.—*E. t.* 275. *f.* 2.—*W. t.* 7. *f.* 5. Somewhat heart-shaped, obliquely convex, decussated by longitudinal and transverse striæ, and laminated at the margin of the anterior slope: lunule oblong heart-shaped: whitish with brown spots.  $1$ .. $1\frac{1}{4}$ .—*American Seas?*—*Timor?*—*Not so tumid as Granulata*.

V. CINGULATA. *Lam.* 17.—V. CRENATA. VAR. B. *Gmel.* 3280.—*Ch. f.* 386?—*W. t.* 8. *f.* 69? Heart-shaped, very convex, girt with transverse crenulated rings and very delicate intermediate transverse striæ: white with brown spots disposed in rays: lunule heart-shaped: white within.  $1\frac{1}{8}$ .

V. CARDIOIDES. *Lam.* 18.—*E. t.* 274. *f.* 3.—V. ASPERRIMA. *Sov. in Z. P.* Rounded, triangular, whitish or fulvous, and rarely spotted; with radiating grooves crossed by transverse slender striæ: lunule oblong and colourless.  $1\frac{1}{2}$ .—*Variety* with reddish brown letter-like markings.—*Cayenne and Jamaica*.

V. GRISEA. *Lam.* 19.—Ovate, transverse, grey spotted internally with violet, decussated, the longitudinal grooves being the more prominent: lunule oval.  $1$ .—*Not unlike V. Decussata*.

V. ELLIPTICA. *Lam.* 20.—*E. t.* 267. *f.* 5. Elliptic, subequi-

lateral, uniformly whitish, with crowded transverse grooves : lunule, lanceolate.  $1\frac{1}{2}$ .

V. DOMBEI. *Lam.* 21. Rounded ovate, thick, rufous, with flattened ribs decussated by transverse striæ, and the lunule ovate ; white within with very irregularly impressed dots towards the centre.  $1\frac{1}{2}$ .—*Peru*—Bears a strong resemblance to *C. Punctata*, but besides the difference of hinge and colouring, is less rounded and more tumid.

V. MERCENARIA. *Lin.* 1131.—*D.* p. 176.—*Lam.* 22. *Ch. f.* 1659, 60.—*E. t.* 263.—*W. t.* 7. *f.* 40. Obliquely heart-shaped, solid, with rough irregular concentric striæ, straw colour ; lunule heart-shaped : interior white with a large violet stain chiefly visible on the anterior side.  $2\frac{1}{2}$  . .  $3\frac{1}{2}$ .—*N. America*.

V. LAGOPUS. *Lam.* 23. Triangular heart-shaped, white with fulvous spots and stained with rose color within ; with raised transverse crowded ribs which are crenulated on the side nearest the ventral margin, and almost become ridges at the anterior extremity.  $1\frac{1}{2}$ .—*New Holland*.

V. GALLINA.\* *Lin.* 1130.—*D.* p. 168.—*Lam.* 24.—*W. t.* 7. *f.* 23.—*Turt. B. p.* 149. *t.* 9. *f.* 2.—*Ch. f.* 308.—*List. t.* 282. *f.* 120.—V. STRIATULA. *Don. t.* 68. Triangular heart-shaped, with numerous glossy sloping transverse ridges, which seem crenulated from being crossed by crowded fine rufous lines ; whitish or pale brown with more or less distinct darker rays, the beaks much recurved, and the slopes nearly smooth. 1 . .  $1\frac{1}{2}$ .—*N. Europe*.

V. GALLINULA. *Lam.* 25.—*Del. t.* 10. *f.* 1.—V. COSTULATA. *W. S. t.* 2. *f.* 15. Elliptic, heart-shaped, moderately convex, with short longitudinal interrupted rufous lines (sometimes obsolete rays), and transverse elevated sloping grooves, which become striæ at the anterior end, whose slope is rather short and somewhat linear : lunule ovate : interior stained with purplish violet.  $1\frac{1}{2}$ .—*New Holland*.—*Closely resembling Gallina*.

V. PECTINULA. *Lam.* 26.—*Del. t.* 10. *f.* 3. Rounded triangular, pale fulvous with longitudinal crenated radiating grooves : lunule ovate : *Cherbourg*,—not unlike the shell figured in *Lin. Tr. vol.* 8. *t.* 2. *f.* 5.<sup>1</sup>

V. SQUAMOSA. *Lin.* 1133.—*D.* p. 190.—*W. t.* 8. *f.* 71.—CYTHEREA S. *Lam.* 75.—*Ch. f.* 335. Triangular heart-shaped, ventricose but compressed at the produced and beaked anterior extremity the slope of which is striated ; reddish white variegated with darker lines on the posterior slope and marked with longitudinal grooves which are cancellated by concentric ones : lunule rounded

<sup>1</sup> V. SULCATA. *Lam.* 27. is a Crassina.

and brownish.  $\frac{3}{4}$ ..  $1\frac{1}{2}$ .—*Indian Seas*.—*Amboyna?*—*Hinge similar to V. Flexuosa*.

V. FLEXUOSA. *Lin.* 1131.—*D.* p. 172.—*Ch.* f. 333, 4.—*W.* t. 7. f. 32.—*E.* t. 266. f. 6, 7. & t. 267. f. 1.—*Bl.* t. 75. f. 5.—CYTHEREA F. *Lam.* 72. Triangular heart-shaped ovate; anteriorly produced, attenuated and rather beaked with a fold which produces a slight sinuation of the ventral margin and bounds the concave slope: whitish reddish or greyish with transverse forked ribs: inside uniform white: both depressions lettered and impressed, the posterior one elongated-heart-shaped, the other lanceolate: hinge with three very divergent teeth, the anterior one almost lateral.  $1\frac{1}{2}$ .—*Indian Seas?*

V. MACRODON. *Desh.*—CYTHEREA M. *Lam.* 73. *Del.* t. 9. f. 3.—*Gaul.* t. 83. 1. Shape and sculpture of the last, but less beaked: yellowish, unspotted, with the anterior slope livid violet and the forked transverse ribs obsolete on the disc; inside violet brown anteriorly, anal tooth very large. 1.—*South Seas*.

V. SINENSIS. *Chem.* f. 1663.—*Gmel.* 3285.—*D.* p. 192.—*W.* t. 8. f. 76.—CYPRINA TENUISTRIA. *Lam.* 6. Rounded ovate, rather longer than broad, thick, nearly smooth and fulvous at the beaks which are incurved and sometimes slightly eroded, becoming paler and finally slightly violet at the margin, where also its concentric striæ, which are crossed by obsolete longitudinal striæ become larger and more prominent: no lunule; whitish within with the margin crenated and usually stained with violet: hinge with three teeth in each valve of which one is cleft and one narrower than the rest.  $1\frac{1}{2}$ .. 2.—*China*.

V. RECENS. *D.* p. 182.—*Ch.* f. 1979.—*W.* t. 7. f. 54. Ovate triangular, slightly heart-shaped; ashy white with three brown more or less broad and distinct rays and numerous minute pale reddish dots; beaks reflected; lunule ovate, impressed and striated; marginal crenulations very fine; curvature of the pallear scar small narrow and very acute.  $1\frac{1}{2}$ ..  $1\frac{3}{4}$ .

V. OVATA.\* *Pennant.* 4. t. 56. f. 56.—*D.* p. 171.—*Lam.* 87.—*W.* t. 7. f. 30.—*Lin. Tr.* 8. t. 2. f. 4.—*Mont.* p. 120.—*Turt. B.* p. 151. t. 9. f. 3. Triangular-ovate, brownish white, moderately convex, subequilateral, the acute beaks rather nearer to the somewhat angulated and flattened anterior slope; with longitudinal grooves rendered scaly by the transverse striæ: impressions obsolete.  $\frac{1}{2}$ ..  $\frac{3}{4}$ .—*British Channel*.

V. SUBRUGOSA. *Sow. G.* f. 2.—*Reeve.* t. 67. f. 2.—*W. S. t.* 2. f. 6. Ovate subcordiform, very convex, thick, the ventral edge much arcuated; pale with three or four broad chocolate-coloured rays, and moderately distant coarse smooth and rounded transverse ribs, which become obsolete on the anterior slope, and towards the ventral edge: lunule heart-shaped, and defined by a line: pos-

terior tooth rudimentary in one valve : margin crenated.  $1\frac{1}{2}$  ..  $1\frac{1}{2}$ .—*Panama*.

V. *RADIATA*. *Chemnitz*. f. 356.—*D.* p. 169.—*W.* t. 6. f. 69. Triangular heart-shaped, with decussated striae, the longitudinal more distinct posteriorly; white with interrupted brown rays, and the anterior slope usually streaked with brown: umbones often stained with violet, the beaks recurved: lunule defined by a heart-shaped line; inside white, the margin crenulated.  $1\frac{1}{2}$  ..  $1\frac{1}{2}$ .—*West Indies*.

V. *PREPARATA*. *Say. Jour. A. N. S. Phil.* 2. p. 271.—V. *NOTATA*. *Gould. Mar. f.* 67.—*du. Say?* Subovate, dirty white with zigzag blotches of liver brown, and numerous elevated subacute parallel concentric lines, becoming mere wrinkles near the suture of the anterior slope and obsolete on the disc, interstices plain: anterior slope flattened, margined by an acute line; anterior margin with an obsolete longitudinal very obtuse undulation, which gives the tip of this margin a slightly truncated appearance; areola cordate, elevated at the suture: inside white or yellowish.  $2\frac{1}{2}$ .—*United States*.

V. *STUTCHBURII*. *Gray. in W. S. t.* 2. f. 4.—V. *CALLOSA*. *Conrad*. Rounded heart-shaped, convex, moderately thick, chalky white, with radiating ribs and concentric elevated striae, except upon the anterior slope, which is devoid of both; no lunule: inside stained anteriorly with purple, the edge crenated.  $1\frac{1}{2}$  ..  $1\frac{1}{2}$ .—*Sandwich Isles*.

V. *DECORATA*. *Brod. & Sow. Z. J.* 5. *Sup. t.* 40. f. 3.—*Beckey. Zool. t.* 41. f. 9. Triangular-cordate, anteriorly produced, white, decussated by fine transverse crenulated riblets, and radiating sulci.

V. *SPISSA*. *Quoy. Ast. t.* 84. f. 7, 8. Transversely ovate, subequilateral, transversely wrinkled, brownish white with one or two indistinct darker rays, the umbones minute and little prominent; lunule ovate oblong, defined by an impressed line; within except the disc, violet, the margin finely crenated.—*New Zealand*.

V. *UNDATELLA*. *Sow. Z. P.* 1835. Rounded elliptic, thick, whitish with brown spots dots and waved markings, and crowded radiating riblike striae, which are decussated by undulated and sublamellar ones: posterior side the shorter, anterior rather sloping, margins depressed; ventral edge rounded, crenulated within.  $1\frac{1}{2}$  ..  $1\frac{1}{2}$ .—*California*.

V. *PULICARIA*. *Brod. Z. P.* 1835. Subtriangular, with very numerous raised delicately plaited concentric lines; white with chesnut scattered spots often arranged in angular figures: dorsal or anterior area, with blackish chesnut streaks: lunule brown; inside purplish, whitish towards the crenulated margin.  $1\frac{1}{2}$  ..  $1\frac{1}{2}$ .—*W. Columbia*.

V. *DISCREPANS*. *Sow. Z. P.* 1835. Elliptic, thick, whitish

subradiatingly painted with brown; posterior side the shorter, but somewhat produced; anterior side rather sloping; margins depressed; with concentric ribs which are lamellar anteriorly, obtuse and broadish centrally, sublamellar posteriorly: umbones rather prominent; ventral margin rounded, denticulated within.  $1\frac{1}{2}$ ...  $1\frac{3}{4}$ .—*Peru*.

V. AUSTRALIS. *Sow. Z. P.* 1835. Ovate, subtriangular, thickish, somewhat tawny, with subradiating subtriangular spots; with elegant crowded thin concentric ridges, which are obtuse, more elevated near the sides and radiatingly decussated; dorsal edge rather elevated, ventral rounded and denticulated within.  $\frac{9}{10}$ ...  $1\frac{1}{10}$ .—*Swan River*.

V. COSTELLATA. *Sow. Z. P.* 1835. Obovate, brownish, sometimes prettily dotted at the apices, turgid, with concentric reflected lamellar riblike striæ, which are more prominent on the anterior side, and are decussated by impressed radiating white lines: lunule distinct and heart-shaped, its margins somewhat raised in the centre, inside white, margin crenulated.  $2\frac{2}{10}$ ...  $2\frac{3}{4}$ .—*Chili and Peru*.

V. CRENIFERA. *Sow. Z. P.* 1835.—Elliptic, rough, whitish, spotted and variously painted with brown, with short crowded concentric ridges, decussated by very close set radiating striæ: posterior cardinal tooth large and elongated.  $1\frac{1}{2}$ ...  $1\frac{3}{4}$ .—*West Columbia*.—*Variety*. Uniform brownish, with some of the striæ elevated and riblike.—*Peru*.

V. CRASSICOSTA. *Quoy. Ast. t.* 84. *f.* 1, 2. Transversely ovate, heart-shaped, rather thick, yellowish grey, with distant thin slightly waved transverse ridges, and equal rounded longitudinal ribs: inside white, with an anterior violet stain; margin very finely crenated.—*New Zealand*.

V. DISCORS. *Sow. Z. P.* 1835. Oboval, thickish, with crowded radiating striæ, posteriorly decussated by wrinkles; white, nearly covered with blackish brown, the disposition of the colouring of the two valves different; a rather elevated dorsal line; inside white, stained with violet on the anterior side, margin crenulated.  $1\frac{1}{2}$ ...  $1\frac{2}{10}$ .—*C. & S. America*.

V. FUSCO-LINEATA. *Brod. & Sow. Z. P.* 1835. Obovate, whitish, with radiating rib-like striæ, which are posteriorly subdecussated; with waved sub-oblique lines, and sometimes two brown rays; dorsal edge straightish, anteriorly subangulated; posterior side short, lunule short; inside purplish.  $1\frac{1}{2}$ ...  $1\frac{1}{4}$ .—*C. America*.

V. LEUCODON. *Sow. Z. P.* 1835. Elliptic, thickish, somewhat ashy, with concentric smooth reflected rib-like striæ, decussated by crowded radiating ones; anterior dorsal area and the lunule brown; inner margin denticulated, the denticles white, the interstices black.  $1\frac{2}{10}$ ...  $1\frac{2}{10}$ .—*California*.

V. HISTRIONICA. *Brod. & Sow. Z. P.* 1835. Obovate, pale fulvous with irregular brown interrupted rayed spots and radiating rib-like striæ, which are rough, prettily decussated, and usually in pairs; dorsal edge straightish, anteriorly sub-angulated; lunule large and heart-shaped; inside whitish.  $1\frac{1}{5}$ .  $1\frac{1}{5}$ .—*C. America.*

V. SPURCA. *Sow. Z. P.* 1835. Ovate, thick, with radiating blotches of brown and fulvous, with subobsolete concentric rib-like striæ, which are obtuse, and rather interrupted near the sides.  $1\frac{1}{5}$ .  $1\frac{1}{5}$ .—*Valparaiso.*

V. COLUMBIENSIS. *Sow. Z. P.* 1835. Rounded elliptic, thick, varied with white and ash colour, with radiating ribs, which are numerous, flattened, rounded and twice as large as the interstices: posterior side the shorter, its ribs with decussating short and obtuse scales, the anterior ribs wrinkled, central ribs smoothish; whitish within.  $1\frac{1}{5}$ .  $2\frac{1}{5}$ .—*W. Columbia.*

V. TRICOLOR. *Brod. & Sow. Z. P.* 1835.—*Beechey Zool. t. 41. f. 7.* Ovate-elliptic, thickish with radiating rib-like decussated striæ; with irregular brown interrupted spots disposed in rays; dorsal edge subangulated in the middle: lunule small and heart-shaped: inside violet.  $1\frac{1}{5}$ .  $1\frac{1}{5}$ .—*C. America.*

V. OBSCURA. *Brod. Z. P.* 1835. Sub-globular, whitish, indistinctly spotted, rough, with crenulated concentric lines; inside white. *Diam.*  $1\frac{1}{5}$ .—*Pacific.*

V. CHILENSIS. *Brod. & Sow. Z. P.* 1835. Obovate, pale, with radiating rib-like striæ which (especially the central) are flattened and decussated, particularly at the sides; adorned with pale brown spots blotches and strigils; dorsal edge straightish, rather sloping, anteriorly subangulated; posterior side the shorter; lunule small and cordiform; inside whitish.  $2\frac{1}{5}$ .  $2\frac{1}{5}$ . *Chili.*

\* \* Inner margin quite entire.

V. LAMELLATA. *Lam.* 28.—*W. S. t. 2. f. 1.*—*Reeve. t. 68. f. 3.*—*Del. t. 10. f. 6.* Oval, angulated at the anterior extremity, of which the slope is glabrous, with unequal ribs; whitish with transverse remote ridges which are fringed on their ventral margin, on which side also they are vertically striated, and possess anteriorly canaliculated appendages; whitish, the lunule oblong heart-shaped and somewhat lamellar.—*Variety.* Rather depressed, with the ridges narrower and without appendages.  $2\frac{1}{5}$ .—*New Holland.*

V. EXALBIDA. *Chem. f.* 1974.—*D. p.* 170.—*Lam.* 29.—*W. t. 7. f. 27.*—*E. t. 264. f. 1.* Oval heart-shaped rather depressed, uniform chalky white both within and without with transverse elevated rather membranaceous striæ: lunule oblong, anterior depression lanceolate.  $2\frac{1}{5}$ .  $3$ .—*Falkland Isles.*

V. RUFA. *Lam.* 30. Oval tumid, rufous, with the margin white, transversely grooved, and very finely striated longitudinally;

interior white, rough with impressed dots.  $3\frac{1}{2}$ .—*Peru and South Seas*.

V. HIAINTINA. *Lam.* 32.—*Del. t.* 10. *f.* 8. Ovate, inflated, angulated anteriorly, very pale rufous with sometimes two or three indistinct rays, closely but irregularly grooved concentrically: no lunule, the anterior depression gaping.  $2\frac{3}{4}$ .—*South Seas*.

V. CRASSISULCA. *Lam.* 33. Ovate oblong, somewhat angulated at the anterior end, uniform yellowish white, with broad transverse somewhat scalariform sulci.  $2\frac{1}{4}$ .—*New Holland*.

V. CORRUGATA. *Gmel.* 3280.—*Lam.* 34. Ovate, whitish, with waved transverse unequal wrinkles, decussated by fine longitudinal striæ; lunule oblong.—*Variety* 1. The sides spotted with, and the posterior depression violet; yellow within.—*New Holland*.—*Variety* 2. V. OBSOLETA. *D. p.* 205.—*Ch. f.* 444.—*W. t.* 8. *f.* 105. The anterior side violet: white within.—*Mediterranean*.

V. RHOMBIFERA. *E. t.* 282. *f.* 4.—V. MALABARICA. *Lam.* 35.—*An. Chem. f.* 324, 5?—*An. D. p.* 174?—*W. t.* 7. *f.* 36? Oblong, sub-cordate, inequilateral, thick, rather ventricose, rounded at both ends, ligamental edge much sloping, ventral anteriorly sinuated; pale fulvous or flesh colour, with large angular darker zigzags (when young white, with the zigzags purplish ash-coloured) which equally cover the surface, and sometimes exhibit four indistinct rays, with crowded narrow transverse ribs: lunule oblong-lanceolate, concave; lozenge elongated, both smooth: within with an orange stain beneath the umbones, elsewhere white, margin smooth; central tooth bifid, in one valve, the two anterior ones so in the other.  $1\frac{1}{2}$ .  $2\frac{3}{4}$ .—*Molluccas*.—Both lunule and lozenge are brilliant purple in young specimens.

V. ROTUNDATA. *Lin.* 1135.—*D. p.* 204.—*W. t.* 8. *f.* 103.—V. PAPILIONACEA. *Lam.* 36.—*Ch. f.* 441.—*E. t.* 281. *f.* 3.—PULLASTRA P. *Sow. G.*—*Reeve. t.* 72. *f.* 3. Elongated oval transversely grooved, glossy, pale reddish fulvous, with four radiating rows of chesnut spots; depressions lanceolate and lettered: margin rounded and spotted with violet.  $1\frac{3}{4}$ .  $3\frac{1}{4}$ .—*Ceylon*.

V. ASPERSA. *Lam.* 37.—V. LITTERATA. *Var. D. p.* 201.—*Ch. f.* 439.—*E. t.* 282. *f.* 1. Oblong ovate, broad sub-angulated and obtuse at the anterior end, narrower and rounded anteriorly; glossy, bright reddish fulvous, with four radiating rows of dark splotches, besides scattered spots and markings, and furrowed by transverse irregular grooves, which become obsolete towards the beaks and are stronger and more distant at the anterior extremity: depressions lanceolate and lettered.—*Variety*.—White somewhat spotted, and without rays.  $1\frac{1}{2}$ .  $2\frac{1}{4}$ .—*Zanzibar, Indian Ocean*.<sup>1</sup>

<sup>1</sup> Lamarck admits as a variety with fewer spots the shell-figured *Ch. f.* 438. and *E. t.* 282. *f.* 4. Deshayes proposes the separation

V. PUNCTIFERA. *Lam.* 38.—V. LITTERATA. VAR. C. *D.* p. 103.—*Ch.* f. 436, 7.—*Valent. Amboy.* t. 15. f. 19. Oblong ovate, somewhat angulated at the anterior extremity, obtuse; pale straw colour, sometimes with large spots indistinctly disposed in rays, and smaller scattered ones with crowded transverse and very fine longitudinal striae. 3.—*Indian Ocean.*

V. TURGIDA. *Lam.* 39. Oval, turgid, transversely grooved, fulvous, with obscure letter-like markings, and about two rays; lunule ovate. Nearly 3.—*Indian Ocean.*—Distinguished by its shape from *Litterata*.<sup>2</sup>

V. LITTERATA. *Lin.* 1135.—*W. t.* 8. f. 161.—*D.* p. 203.—*Lam.* 40.—*Ch.* f. 332, 3.—*E. t.* 260. f. 4. and t. 261. f. 1.—*PULLASTRA* L. *Sow. G.*—*Reeve.* t. 72. f. 2. Ovale, somewhat angulated at the anterior end, finely grooved transversely, whitish with concentrically disposed angulated chevron lines or brown spots; beaks small and smooth; white within.—*Variety.* *Ch.* f. 435. With both deep brown spots and indistinct letter-like markings.—*Indian Ocean.*

V. TEXTILE.<sup>3</sup> *Gmel.* 3280.—*Lam.* 42.—*W. t.* 8. f. 104.—V. UNDULATA. *D.* p. 204.—*Ch.* f. 442.—*E. t.* 263. f. 1. Oblong, very smooth and glossy, pale fulvous with a network of angularly flexuous livid lines, both the lunule and the anterior slope lettered, the former lanceolate. 1½..2½.—*Malabar.*

V. GEOGRAPHICA. *Chem. f.* 440.—*Gmel.* 3293.—*D.* p. 203. *Lam.* 44.—*W. t.* 8. f. 102. Ovale oblong, posterior side very short, white with reddish brown zigzag stripes, which form a kind of network, transversely grooved and indistinctly striated longitudinally, inside white. 1½.—*Mediterranean.*—*Amboyna?*

V. RARIFLAMMA. *Lam.* 45.—V. DURA. *Gmel.* 3292.—

of it as a distinct species, and to bestow on it, and not on the species we have described, the original name of Chemnitz.

<sup>2</sup> OVULEA. *Lam.* 59, is a worn specimen of this species.

Deshayes has stated from an examination of specimens named by Lamarck himself, that V. DORSATA. *Lam.* 31, is but a local or accidental variety of this species. I will however in accordance with my usual plan of adding the doubtful species in the notes, give the characteristics specified in the Animaux sans Vertebres.

V. DORSATA. *Lam.* 31. Oval, tumid, the anterior side elevated and obtusely angulated, with numerous transverse grooves of which those nearer the margin are sublamellar: lunule brown and oblong, either straw colour with the anterior slope somewhat spotted or whitish with chevron letter-like markings: within white with a flesh coloured stain on the disc. 2½.—*New Holland.*

<sup>3</sup> V. SULCARIA. *Lam.* 41, is a variety of this. (*vide B. M.*)



*Adams. Seneg. t. 17. f. 12.—E. t. 283. f. 5.—TELLINA CAN-CELLATA. W. t. 4. f. 60.* Ovate oblong, transversely grooved, whitish with short brown distant flamelike markings, (sometimes accompanied by white triangular spots,) and more or less marked with faint yellowish brown lineoles; beaks very small and almost smooth; lunule elongated and indistinct.  $1\frac{1}{2}$ .—*Africa*.<sup>1</sup>

*V. DECUSSATA.\* Lin. 1135.—D. p. 205.—Lam. 46.—W. t. 8. f. 107.—Turt. B. p. 158. t. 8. f. 10.—V. FUSCA. Gmel. 3281.—V. OBSCURA. Gmel. 3289.—List. t. 423. f. 271.—Ch. f. 455, 6.—Don. 2. t. 67.* Ovate, subangulated and broader at the anterior end, whitish or pale rust-colour, with usually purplish brown or rufous spots rays or zigzag markings: decussated by striæ of which the longitudinal ones are the more prominent: the decussation strongest at the extremities often forming small tubercles at the anterior one; lunule indistinct.  $1\frac{1}{2}$ ..  $2\frac{1}{2}$ .—*Europe and South Seas*.<sup>2</sup>

*V. PULLASTRA.\* Mont. p. 124.—Lam. 47.—W. t. 8. f. 109.—V. SENEGALENSIS. Gm. 3282.—D. p. 206. and 8. t. 2. f. 7.—Dorset Cat. t. 1. f. 8.—Turt. B. p. 159.* Oblong, reticulated by fine striæ, of which the concentric ones are the more apparent and become somewhat lamellar at the anterior end, white with narrow angular reddish brown markings especially at the anterior extremity which is somewhat angulated: lunule more apparent than in the last.  $1\frac{1}{2}$ ..  $1\frac{3}{4}$ .—*France, &c.*

*V. RETIFERA. Lam. 50.* Ovate oblong, transversely grooved, whitish with rather angulated fulvous lines so united as to form net-work rays: anterior slope and the oblong lunule brown: white within.  $1\frac{3}{4}$ .—*Europe?*

*V. ANOMALA. Lam. 51.* Ovate oblong, subangulated anteriorly, very inequilateral, the posterior side being very short and without a depression the anterior slope elongated and gaping: pale, slightly reddish towards the beaks, with transverse striæ which become somewhat ridgelike on the anterior extremity: hinge with

<sup>1</sup> *V. GLANDINA.—Lam. 48.—Del. t. 10. f. 7,* is according to Deshayes a Mediterranean variety of *Geographica*.—I add however the Lamarckian description.—Transversely oblong, with fine decussated striæ, glossy, mottled with white and rufous so as to form indistinct rays; within with the umbones and the anterior side somewhat spotted. 1.—*New Holland*.

<sup>2</sup> *Of this species Deshayes considers as a Variety—V. TRUNCATA. Lam. 49.* Ovate, the anterior side the broader and somewhat truncated, tawny white mottled with bluish brown, and slightly decussated, the longitudinal grooves being the more apparent: yellow within.  $1\frac{1}{2}$ .—*Shorter and wider than Decussata*.

the cardinal teeth straight.—*Variety*. Larger, wider and white.  
1.—*South Seas*.

V. GALACTITES. *Lam.* 52. Elongated ovate, rather angulated anteriorly, white, subdepressed, the longitudinal grooves being the more apparent; no lunule: hinge with the teeth erect. 2½.—*New Holland*.

V. EXILIS. *Lam.* 53. Oblong elliptic, the posterior side very short and without a lunule; rather convex, thin, pellucid white, antiquated by very fine transverse and indistinct longitudinal striae. ¾.

V. SCALARINA. *Lam.* 54.—*Del. t.* 10. *f.* 12. Somewhat heart-shaped, depressed, whitish with the beaks violet, with numerous elevated transverse sulci, which are marked with small fulvous articulated spots; lunule lanceolate, anterior slope glabrous, nymphæ gaping. 1½.—*South Seas*.—*Allied to Aphrodina*.<sup>1</sup>

V. AUREA.\* *Mont. t.* 129.—*Gmel.* 3288.—*D. p.* 207.—*Lam.* 56.—*Turt. Biv. t.* 9. *f.* 7, 8.—*List. t.* 404. *f.* 249.—*W. t.* 8. *f.* 111.—Ovate, obtusely heart-shaped, tumid in the middle, and the ventral margin much rounded; yellowish white with usually fine brownish zigzag lines, close concentric striae and obsolete longitudinal ones; lunule defined by a groove and ovate-oblong: golden yellow within. 1..1½. *W. Europe*.

V. VIRGINEA.\* *Lam.* 57.—*An eadem. Lin.* 1134?—*D. p.* 207.—*W. t.* 8. *f.* 110.—*Ch. f.* 457.—*Lin. Tr.* 8. *t.* 2. *f.* 8.—*Turt. B. t.* 8. *f.* 8. Ovate, obliquely subangulated at the anterior extremity and when adult with an obsolete angle from the beaks to that margin, mottled with whitish and reddish, the less prevailing colour forming zigzags which are sometimes disposed in rays, and marked with concentric groovelike striae which become coarser at the anterior extremity which is the more tumid: ventral margin obtuse: lunule oblong: inside often with a tinge of pink. 2½.—*Europe*.

V. MARMORATA. *Lam.* 58.—*Del. t.* 10. *f.* 13. Ovate, transversely grooved, white mottled with fulvous and rufous, the beaks small white and a little stellated; the anterior slope large, violet brown and lineolated; lunule oval-oblong, with its apex violet brown: white within. 1½.—*S. Europe*.

V. LATERISULCA. *Lam.* 60. Somewhat heart-shaped, with transverse grooves, which in the middle become indistinct striae: reddish, spotted with whitish, and with rufous at the anterior slope: posterior depression, oval oblong: white within. 7¾.

V. PINGUIS. *Chemnitz. f.* 335, 6, 7.—*D. p.* 181.—*E. t.* 266. *f.* 3.—V. OPIMA. *Gmel.* 3279.—*Lam.* 62.—*W. t.* 7. *f.* 50.—

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<sup>1</sup> V. SCOTICA. *Lam.* 55, is a Crassina.

Obtusely subcordate, thick, tumid, glossy, smooth, pale fulvous, extremely variable in its markings, often with obscure dusky rays : depressions sunken the posterior oval-subcordate, the anterior indistinctly sub lanceolate and painted with bluish grey linear markings : beaks much incurved : inside white, generally with a pinkish tinge beneath the umbones : a flattened posterior callosity beneath the hinge : two of the teeth bifid in each valve.—*Variety*. (*E. t.* 266. *f.* 5.) The umbones with a somewhat star-like white spot or with some white rays.—*Variety*. (*V. NEBULOSA*, *Chem. f.* 359, 360, 1.—*Lam.* 63.—*W. t.* 7. *f.* 52.—*Gmel.* 3279.—*D. p.* 182.) Covered with obsolete angular dusky markings, some of the larger of which form themselves into three or four radiating rows. 1..1½.—*Indian Seas*.—*Tranquebar*.

*V. PHASEOLINA*. *Lam.* 64.—*Del. t.* 10. *f.* 4. Ovate, thin, transversely striated, grey or pale fulvous, with small white triangular spots and brown narrow rays (which sometimes become obsolete), the beaks somewhat violet ; posterior depression ovate. 1½.

*V. CARNEOLA*. *Lam.* 65.—*Del. t.* 10. *f.* 5. Ovate, uniform flesh color, with transverse and longitudinal finer striæ and the beaks violet : posterior depression lanceolate : inside whitish. 1½.

*V. FLORIDA*. *Lam.* 66.—*V. LÆTA*. *Poli.* 2. *t.* 21. *f.* 1 to 4.

*V. VIRGINEA*. *Philip. p.* 46. Small, subtriangularly oblong ovate, glossy, inequilateral, anteriorly longer, rounded at both ends, finely striated transversely : most variable in colouring usually marbled with brown and white, often rayed and reticulated, anterior depression short, posterior oblong : inside yellow.—*Variety*. (*BICOLOR*. *Lam.* 68. *An Poli.* 2. *t.* 21. *f.* 3?) White, with minute additional longitudinal striæ, and the anterior slope on one side brown, sometimes with brown rays ; lunule brown.—*Variety*. (*V. CATENIFERA*. *Lam.* 70.) With four brown chain-like rays ; spotted with orange internally. 1½.—*Mediterranean*.<sup>1</sup>

*V. PETALINA*. *Lam.* 67.—*BEUDANTII*. *Payr. t.* 1. *f.* 32. Ovate oblong, rather sloping from the beaks on both sides, posteriorly short, anteriorly produced and attenuated, mottled flesh colour with one or two white rays, the beaks and inside purple, all but smooth, the fine transverse striæ only evident posteriorly ; lunule lanceolate : of the teeth two are cleft in one valve, the central one only in the other.—*Mediterranean*.

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<sup>1</sup> To this species Deshayes appends *V. TEXTURATA*. *Lam.* 43. The localities, however, are so far apart that I do not venture to unite them. *V. TEXTURATA*. *Lam.* 43.—*Ch. f.* 443. Ovate, antiquated, whitish, with a kind of network of reddish yellow lines ; the transverse striæ very fine : posterior depression ovate : beaks rather prominent. 1½.—*Indian Ocean*.

V. FLORIDELLA. *Lam.* 69.—*Del. t.* 10. *f.* 2. Ovale, rather depressed, with transverse grooves, whitish with pale cloudy broad spreading purplish violet rays : anterior extremity obliquely truncated and its depression elongated.  $1\frac{1}{2}$ .—*Europe?*—*Larger than Florida, but possibly a variety.*

V. PULCHELLA. *Lam.* 71.—*Del. t.* 10. *f.* 9. Small, oval, shining, pale purplish rose, anteriorly darker, with minute markings forming a few rays : near the umbones smooth, becoming transversely grooved towards the margin : within purplish pink. 1.—*Mediterranean.*—*Probably a variety of Florida.*

V. SINUOSA. *Lam.* 72. Somewhat heart-shaped, transversely grooved, pale fulvous with two indistinct sub-articulated rays, and sinuous at the margin ; posterior depression oval, nearly heart-shaped, brown at its base, and as well as the anterior slope lettered.  $1\frac{1}{2}$ .—*New Holland?*—*South Seas.*

V. TRISTIS. *Lam.* 73.—*Del. t.* 10. *f.* 10. Somewhat heart-shaped, transversely grooved, reddish fulvous (sometimes with brown interrupted rays), within with the disc pale orange, and the margin bluish violet.—*Variety.* (ELEGANTINA. *Lam.* 23.—*Del. t.* 11. *f.* 3.) Pale fulvous and somewhat rayed, the anterior slope and posterior depression violet, the former lineated ; within with some violet spots at the hinge besides the orange stain.  $1\frac{1}{2}$ .—*New Holland.*<sup>1</sup>

V. VULVINA. *Lam.* 75. Somewhat heart-shaped, transversely grooved, pale fulvous and somewhat rayed ; anterior slope convex, both depressions livid ; within white.  $1\frac{1}{2}$ .

V. VERMICULOSA. *Lam.* 76. Somewhat heart-shaped, transversely striated, pale fulvous, sub-reticulated by rufous or brown letter-like markings ; white within, with a bluish tinge under the nymphæ.  $1\frac{1}{2}$ .—*New Holland.* (The exterior reminds us of V. AUREA.)

V. FLAMMICULATA. *Lam.* 77.—V. CALLYPIGA. *Lam.* 61.—V. RIMULARIS. *Lam.* 74.—V. JAPONICA. *W. t.* 7. *f.* 55. Subcordate, oval, convex or tumid, transversely grooved, variable in colouring, being white or reddish with (74) obscure rays, pale fulvous with (77) white radiating flammules, or (61—*E. t.* 267. *f.* 5?) fulvous and white with rufous lines and spots, and starred with white at the

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<sup>2</sup> We have figured the *Aurisiaca* of Gray, a shell so closely resembling *Delessert's Tristis*, that we have not ventured to copy the latter. V. AURISIACA. Gray, *Ann. Phil.* 25.—*W. S. Venus* 12. Triangularly ovate, polished, striated subcentrically, pale brown with three obscure zones ; anteriorly elongated : lunule and lozenge lanceolate, variegated with purple : orange within :  $\frac{2}{3}$  . .  $\frac{2}{3}$ .

beaks; inside white, with purple spots on the hinge margin.  $1\frac{1}{2}$ .—*New Holland*.

V. APHRODINA. *Lam.* 80.—*Del. t.* 11. *f.* 1. Obliquely heart-shaped, more or less conical, with more or less raised transverse striæ, glossy; anterior depression glabrous, lunule when distinct elongated heart-shaped; inside white, with a bluish stain anteriorly.—*Var. A.* Greyish fulvous.—*Var. B.* (CONULARIS. *Lam.* 78.—*Del. t.* 11. *f.* 4.) bluish or purplish violet within and without.—*Var. C.* (STRIGOSA. *Lam.* 79.) uniform pale fulvous, or with rufous simple or grouped lines.

V. PERONII. *Lam.* 81. Ovate heart-shaped, whitish, and transversely grooved, the interstices flattened, and the beaks smooth; posterior depression oval and violet; orange within, with two purplish black spots.  $1\frac{1}{2}$ .—*New Holland*.<sup>1</sup>

V. FLAMMEA. *Lam.* 84.—*Gmel.* 3278.—*D. p.* 174 ?—*Schro. Ein. in Conch. t.* 8. *f.* 12.—*W. t.* 7. *f.* 37. Somewhat heart-shaped, transversely grooved, whitish, with angular chestnut lines; beaks smooth; posterior depression oblong; within white with a slight tinge of orange under the beaks.  $1\frac{1}{2}$ .—*Red Sea*.

V. UNDULOSA. *Lam.* 85. Triangular, nearly smooth, having only fine transverse striæ, whitish with very delicate crowded waved transverse rufous zigzag lines; posterior depression oblong and reddish.  $1\frac{1}{2}$ .—*New Holland*.

V. PUMILA. *Lam.* 86. Rounded ovate, thin, greyish white, spotted or rayed with brown, transversely striated, and the anterior slope short and narrow; posterior depression lanceolate; yellowish within.—*Cettes in the Mediterranean*.

V. INQUINATA. *Lam.* 88.—*An. V. TRIANGULARIS. Lin. Tr.* 8. *p.* 83 ? Rounded heart-shaped, tumid, yellowish-white and soiled, with the beaks prominent and smooth, and the rest of the shell marked with concentric striæ, and extremely fine longitudinal ones. 1.—*Cherbourg. Is not this a repetition of V. Ovata?*

V. GEMMA. *Totten. Sil. J. t.* 26. *f.* 2.—*Gould. Mas. p.* 88. *f.* 51. Small, sub-orbicular, longer than broad, sub-equilateral, shining, with minute concentric crowded furrows, violet and white; teeth divergent, the central one in each-valve stout and triangular, the posterior in one valve and the anterior in the other thin and not easily distinguished.  $\frac{1}{4}$ ..  $\frac{3}{16}$ .—*U. States*.

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<sup>1</sup> It is stated by Deshayes that V. APHRODINOIDES. *Lam.* 82.—*Del. t.* 11. *f.* 2.—*W. S. t.* 2. *f.* 10. is but a variety of this species. The characters are—shell somewhat heart-shaped, obliquely conic, with numerous transverse grooves, whitish spotted internally with violet.  $1\frac{1}{2}$ .—*New Holland*.

V. JAPONICA. *Gmel.* 3279.—*D.* p. 183.—*Ch.* f. 364. Subcordate, posteriorly short, anteriorly produced and angulated, strongly and densely grooved transversely; variable in colouring, but usually whitish with angulated dark (brown more or less purplish) markings, forming a kind of network, and frequently three rays: lunule oblong ovate, and stained near the beaks with purplish; anterior slope elongated, smooth, livid, violet: inside white, with purple stains on the hinge margin: hinge with the central tooth bifid in one valve, the anterior so in the other.  $1\frac{1}{2}$ . . 2.—*Japan, &c.*

V. STRIATA. *Chem.* f. 365, 6.—*Gmel.* 3279.—*W.* t. 7. f. 56.—*D.* p. 183.—*An. E.* t. 267. f. 3? Subcordate, oval, inequilateral, anteriorly angulated, the ligamental edge sloping greatly; ventral edge rounded, subundulated, fulvous (sometimes with obsolete linear markings and very obscure rays), the transverse subundulated striæ at the beaks becoming grooves below: lunule ovate oblong, large and not coloured; within with an orange spot beneath the umbones, elsewhere white, margin smooth.  $1\frac{1}{2}$ . .  $2\frac{1}{2}$ .—*Nicobar Isles.*

V. PAUPERCULA. *Chem.* 11. p. 227. t. 202. f. 1977.—*D.* p. 172.—*W.* t. 7. f. 31. Ovate subcordiform, smooth, with reddish brown or bluish dots and veins on a yellowish ground; the retuse oval oblong anterior depression and the heart-shaped impressed lunule tinged with violet.  $\frac{1}{4}$ . .  $1\frac{1}{2}$ .—*Coremandel.*—*Having somewhat the shape of FLEXUOSA.*<sup>1</sup>

V. PAPYRACEA. *Gray. Ann. Phil.* 25.—*W. S. t.* 2. f. 8. Ovate, gibbous, paperlike, thin, pellucid, white, subantiquated; umbones concentrically grooved; hinge margin anteriorly impressed.—*New Genus?*

V. ZELANICA. *Quoy. Ast. t.* 84. f. 5, 6. Ovate heart-shaped, turgid, longitudinally ribbed, with ridge-like transverse striæ, livid brown; lunule obsolete: within yellowish, anteriorly with a violet stain, the hinge with two of its three teeth cleft.—*New Zealand.*

V. INTERMEDIA. *Quoy. Ast. t.* 84. f. 9, 10. Transversely ovate,

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<sup>1</sup> *I possess a shell with many of the characteristics of this rather obscure species. Should it not prove to be identical, I have every reason to believe it to be undescribed.* Ovate sub-cordiform, very convex, rather thick, anteriorly produced and somewhat beaked, posteriorly short and obtusely rounded, ventral edge arcuated and anteriorly incurved: smooth, glossy, veined with dark ashy dots, and often two or three rays on a lighter ground: inside white, with usually a tinge of scarlet beneath the umbones, and always with dark purple spots beneath the depressions, which externally are sunken, the anterior lanceolate, the posterior oval oblong: margin entire.  $\frac{1}{4}$ . .  $1\frac{1}{2}$ .—*Allied to Opima of Lamarck.*

rather convex, not thick, ashy white, anteriorly sub-truncated, with both transverse and delicate longitudinal striæ, anterior side grooved, the interstices flattened: lunule lanceolate, narrow, its inner margin violet: within violet, the hinge with two of three teeth cleft. — *New Zealand*.

V. PERUVIANA. *Sow. Z. P.* 1835. Obovate, thick, concentrically ribbed; the ribs thickish, sublamellar, posteriorly reflected, centrally reflected, articulated with fulvous, anteriorly deflected and thinner; anterior side doubly as long as the posterior, margins depressed and flattened; ventral edge rounded: smooth within. — *Peru*.  $1\frac{1}{10}$ .  $2\frac{3}{10}$ .

V. MULTICOSTATA. *Sow. Z. P.* 1835. Large, elliptic, ventricose, thick, with numerous concentric ribs, which are thick, reflected, posteriorly undulated, centrally crenated, anteriorly alternately interrupted, rather irregular and rather undulated; pale fawn, with darker spots forming rays: dorsal edge nearly straight, ventral rounded: lunule heart-shaped.  $3\frac{1}{10}$ .  $4\frac{3}{10}$ . — *Panama*.

V. STRAMINEA. *Con. Jour. A. N. S. Phil.* 7. p. 250. t. 19. f. 14. Suboval or suborbicular, convex, varied with yellowish and brown, with brown angular spots, with numerous crowded radiating striæ, and finer concentric lines, which are most distinct posteriorly; anterior extremity direct, ligamental margin nearly parallel with the base: teeth compressed, sinus of the pallear scar profound.  $1\frac{1}{4}$ . — *California*.

V. OFACA. *Sow. Z. P.* 1835. Oblong, squarish, rather turgid, smooth, opaque, whitish, slightly tinged with purple; posterior side the shorter, rounded, concentrically rugulose; anterior side rather rounded, sub-angulated above and below: ligament very large.  $2\frac{1}{4}$ .  $3\frac{3}{4}$ . — *Chili*.

V. ALTERNATA. *Brod. Z. P.* 1835. Rather rounded triangular, with numerous acute raised concentric lines, white with chesnut rays; dorsal or anterior area and the lunule violet chesnut; inside white, indistinctly clouded with violet chesnut towards the umbones.  $1\frac{1}{2}$ .  $1\frac{3}{4}$ . — *W. Columbia*.

V. LENTICULARIS. *Sow. Z. P.* 1835. Lenticular, subtrapeziform, thick, opaque, pale, smooth, with concentric lines, which are distinct at the side, obsolete in the middle, and somewhat raised near the umbo; dorsal edge roundish, anteriorly subangulated; lunule elongated, heart-shaped, small and impressed: inside whitish.  $2\frac{1}{10}$ .  $3\frac{1}{10}$ . — *Chili*.

V. CYPRIA. *Z. P.* 1835. Oblong subtriangular, white with brown rays, and thick concentric obtuse ridges which anteriorly are finer and more closely set; dorsal line straightish and sloping: anterior area broad and dark: lunule conspicuous, brown, and heart-shaped.  $\frac{3}{4}$ .  $\frac{3}{4}$ . — *W. Columbia. Akin to Paphia*.

VENERICARDIA.

*Equivale, inequilateral, suborbicular, generally with longitudinal, radiating ribs: hinge with two oblique teeth in each valve, turned in the same direction.*

V. AUSTRALIS. *Lam. Sow. Tank.*—*Ast. t.* 78. *f.* 12, 3, 4.—*CHAMA A. W. S. t.* 2. *f.* 4. Rounded and obtusely cordate, posteriorly short and rounded, anteriorly angulated at the ventral edge which is strongly arcuated; thick, convex, whitish, transversely variegated with chesnut brown on its numerous narrow angulated and crenulated ribs: inside stained with brown anteriorly, margin coarsely toothed. 1.—*Australia, &c.*

V. MEGASTROPHA. *Gray. Ann. Phil.* 25. *vignette p.* 138. Obliquely heart-shaped, thick, white variegated with rufous, with convex wrinkled ribs: hinge margin very thick. 1.—*New Holland?*

V. CRASSICOSTA. *Sow. Tank. Cut.* Heart-shaped, tumid, anteriorly angulated, with twenty-two thick depressed ribs which are angulated at their sides, irregularly crenated, variegated with pink orange crimson and dark brown: inside white.

TRIBE CARDIACEA.

*Primary teeth irregular, either in form or situation; and accompanied by one or two lateral teeth for the most part.*

CARDIUM.

*Equivale, subcordate; beaks prominent; the interior margins of the valves denticulated or plicated; hinge with four teeth in both valves; with two approximate primary oblique teeth, mutually inserted and crossing each other; two lateral remote teeth.*

\* No particular angle on the beaks, and the anterior side at least as large as the posterior.

C. COSTATUM. *Lin.* 1121.—*D. p.* 109.—*Lam.* 1.—*Wood. G. C. t.* 56. *f.* 1.—*W. t.* 5. *f.* 34.—*List. t.* 327. *f.* 164.—*Ch. f.* 151, 2.—*E. t.* 292. *f.* 1. and *t.* 293. *f.* 1. Gibbous, sub-globose, thin, nearly equivale, with high keeled membranaceous longitudinal white ribs, the interstices reddish tawny; anterior side gaping; within white, with grooves corresponding to the exterior ribs. 3..3½.—*Guinea and Senegal.*—(From the straightness of the hinge-margin the shell seems auriculated.)

C. INDICUM. *Lam.* 2.—*C. I. f.* 46. Heart-shaped, tumid, sub-equilateral, with obtuse ribs, which at the margin of the anterior end are covered with spines resembling the teeth of a saw, of the posterior with rather distant trumpet-like scales; white,



reddish at the beaks, and tinged with rose colour on the anterior side; aperture of the anterior side patulous: margins deeply serrated. 2.—*Indian Ocean*.

C. RINGENS. *Chem. f.* 170.—*Gmel.* 3254.—*D. p.* 119.—*Lam.* 3.—*Wood. G. C. t.* 53. *f.* 1, 2.—*W. t.* 5. *f.* 18.—*Knorr.* 4. *t.* 14. *f.* 3.—*E. t.* 296. *f.* 3. Roundish, ventricose, whitish tinged with rose colour on the anterior side where the margin is deeply serrated and gaping, with about twenty-six longitudinal ribs which are unarmed, and the anterior ones somewhat keeled and irregularly grooved on one side. *Diam.* 1.—*Africa*.

C. ASIATICUM. *Lam.* 4.—C. LIMA. *Gmel.* 3253.—*W. t.* 5. *f.* 32.—*D. p.* 110.—*Ch. f.* 153, 4.—*E. t.* 293. *f.* 2. Heart-shaped, tumid, whitish or pale fulvous and the beaks tinged with red, with numerous small ribs which posteriorly are edged with short spines, anteriorly with recurved lamellæ, which are furrowed on one side; margins serrated.  $1\frac{1}{2}$ ..2.—*Nicobar Isles*.

C. TENUICOSTATUM. *Lam.* 5.—*Del. t.* 11. *f.* 6.—*C. I. f.* 19, 36. Somewhat heart-shaped, whitish with the beaks rosy and smooth, with nearly fifty unarmed ribs which are obsoletely imbricated anteriorly; posterior depression indistinct, and the valves shutting quite close.  $2\frac{1}{2}$ .—*Timor and New Holland*.

C. FIMBRIATUM. *Lam.* 6.—*Wood. G. C. t.* 56. *f.* 5.—*Beechey.* *Z. t.* 42. *f.* 1.—*W. t.* 5. *f.* 39. Somewhat heart-shaped, whitish with the beaks rather violet, with thirty-six unarmed convex ribs, which are only lamelliferous at the apex, and not at all on the posterior side; the margin fringed with crested lamellæ; the posterior depression oval, a callosity under the beaks.  $1\frac{1}{2}$ .—*Indian Ocean?*

C. BRASILIANUM. *Lam.* 7.—*C. I. f.* 60. Obliquely ovate, smooth, ash colour, partially painted with longitudinal rufous lines, and the anterior slope spotted with brown; within chestnut; and the margin toothed. 1.—*Rio Janiero*.

C. APERTUM. *Chem. f.* 181, 2, 3.—*Lam.* 8.—*Wood. G. C. t.* 56. *f.* 2.—*W. t.* 5. *f.* 35.—C. VIRGINEUM. *var. B.* *Gmel.* 3253.—V. RUGATUM. *D. p.* 125.—*E. t.* 296. *f.* 5. Somewhat heart-shaped, inequilateral, the anterior end being produced and gaping, pale fulvous, or whitish with the beaks tawny orange and smooth, with narrow distant acute longitudinal ribs which are flattened at the anterior extremity; within stained anteriorly with rose colour.  $1\frac{1}{2}$ .—*Jamaica*.

C. PAPYRACEUM. *Chem. f.* 184.—*C. I. f.* 55, 6.—*W. t.* 5. *f.* 33.—*Gmel.* 3254.—*D. p.* 125. Somewhat heart-shaped, thin, brittle, pellucid, whitish, tinged with purplish red at the beaks, nearly equilateral, with obsolete longitudinal striæ; slightly gaping on the anterior side, posterior depression large and oval: within spotted with purplish brown.  $1\frac{1}{2}$ .. $1\frac{1}{2}$ .—*Japan*.

C. BULLATUM. *Lam.* 10.—SOLENI B. *Lin.* 1115.—*D. p.* 69.

—*Ch.* f. 49, 50.—*E. t.* 296. f. 6.—*C. SOLENIFORME. Brug. no.* 34.—*Wood. G. C. t.* 56. f. 3.—*W. t.* 5. f. 36. Transversely ovate, the anterior end produced gaping and serrated at the margin, the posterior short narrow and obliquely rounded; fragile with obliquely radiating ribs, which are armed at both slopes, white marbled with reddish chocolate and a faint purplish spot at the beaks visible within and without.  $1\frac{1}{2}$ .—*Martinique.*

*C. PSEUDOLIMA. Lam.* 13.—*C. I.* f. 67. Heart-shaped, ventricose, white with thirty-eight flattened ribs which at the umbones are smooth, and towards the margin become roughened by a central row of minute tubercles.  $4\frac{1}{2}$ .—*Red Sea.*

*C. TUBERCULATUM.\* Lin.* 1122.—*D. p.* 117.—*Lam.* 16.—*E. t.* 298. f. 3?—*Turt. Dic.* f. 12.—*Don.* 3. t. 107. f. 2.—*Wood. G. C. t.* 50. f. 2.—*W. t.* 5. f. 4. Somewhat globular and ponderous, a little truncated anteriorly, brownish, with twenty-one ribs which as well as the interstices are coarsely wrinkled transversely, the anterior ones armed with pointed tubercles, the posterior with thick transverse scale-like plates.  $3\frac{1}{2}$ .—*Young. Strong, chocolate with white blotches, tuberculated.—England, &c.*

*C. ACULEATUM.\* Lin.* 1122.—*D. p.* 114.—*Lam.* 14.—*E. t.* 298. f. 1.—*Ch.* f. 156.—*List.* 321. f. 158.—*Don.* t. 6.—*Turt. Bio. t.* 13. f. 6, 7.—*W. t.* 5. f. 1. Somewhat globular, tumid, not ponderous, brownish, a little angular on the anterior side, with twenty-one ribs armed with transversely compressed spines, which anteriorly are more acute, and posteriorly rather warty; the interstices striated transversely.  $3\frac{1}{2}$ .—*Europe.*<sup>1</sup>

*C. ECHINATUM.\* Lin.* 1122.—*D. p.* 116.—*Lam.* 12. *Don.* t. 107. f. 1.—*Dorset Cat.* t. 6. f. 2.—*W. t.* 5. f. 2. Somewhat globose, convex, not thick, brownish white, slightly oblique, with eighteen ribs armed with numerous sharp white spines which curve towards the anterior side, and posteriorly are thicker and more obtuse: the interstices transversely striated. *Diam.* 2.—*Young as the last, but entirely white.—Europe.*

*C. ERINACEUM. Lam.* 15.—*SPINOSUM. D. p.* 115.—*E. t.* 297. f. 5.—*Ch.* f. 157. Rounded heart-shaped, nearly equilateral, whitish or tawny, with about thirty-five crowded longitudinal ribs, which are marked along the middle with an obsolete groove, are closely set with sharp spines anteriorly, and posteriorly with short very obliquely mucronated tubercles. 3..3.—*Mediterranean.*

*C. ISOCARDIA. Lin.* 1122.—*D. p.* 118.—*Lam.* 17.—*W. t.* 5. f. 13.—*Ch.* f. 174, 5, 6.—*E. t.* 297. f. 4.—*Wood. G. C. t.* 52.

<sup>1</sup> The young of this species form the *C. CILIARE. Lam.* 11.—(*W. t.* 5. f. 3.) and are fragile, glossy fawn colour, with the spines longitudinally dilated at the base.

*f. 1, 2.* Obliquely heart-shaped, tumid, sub-equilateral, longer than broad, whitish with irregular reddish brown spots, and crowded longitudinal ribs which are covered with erect vaulted anteriorly elongated scales, and have very narrow interstices: within white, stained centrally with red, and the margin serrated. 2..1½.—*W. Indies.*—*The Consors of Sow. C. I. is probably but a variety of this species.*

*C. MURICATUM.* *Lin.* 1123.—*D. p.* 120.—*Lam.* 18.—*Wood. G. C. t.* 51. *f. 2.*—*W. t.* 5. *f. 14.*—*Ch. f.* 177, 8.—*E. t.* 297. *f. 1.* Ovate heart-shaped, longer than broad, flesh-coloured or yellowish stained or spotted with reddish chocolate; with numerous flattish ribs equal in breadth to the interstices, with their sides armed with oblique flattish spines, which all excepting about a dozen at the posterior extremity, point anteriorly; anterior serrated margin edged with red yellow or scarlet: within with two purplish brown rays. 1½..1½.—*W. Indies.*—*S. Carolina.*—*Spines indistinct towards the centre.*

*C. ANGULATUM.* *Lam.* 19.—*Seba. mus.* 3. *t.* 86. *f.* 6.—Longitudinal, ovate, oblique, whitish with purplish bands towards the margin, and thirty-two ribs which are angulated on the upper surface, transversely grooved, and the posterior ones crenulated as it were obliquely by some elongated tubercles. 2½.—*America?*—*Deshayes asserts that the Museum specimen is only a large C. Rugosum.*

*C. LEUCOSTOMUM.* *Born. t.* 3. *f.* 6, 7.—*D. p.* 121.—*Ch. f.* 179.—*C. MAGNUM.* *Var. B.* *Gmel.* 3250.—*W. t.* 5. *f.* 20.—*C. MARMOREUM.* *Lam.* 20.—*List. t.* 331. *f.* 168.—*E. t.* 297. *f. 3.* Longitudinally oval, moderately convex, subequilateral, white mottled with orange and red, with thirty-two prominent ribs, which are crenated on both sides, are larger than their interstices and somewhat tuberculated at the posterior extremity; on the anterior side where sometimes are a few lanceolate prickles, the margin is serrated and tinged with yellow; white within.—*Variety. Larger, with the posterior depression glabrous and lanceolate.* 2½..2.—*Jamaica.*—*Ceylon.*

*C. ELONGATUM.* *Lam.* 21.—*Brug. Dict. no.* 26. (*except synonyms.*)—*An. Seba.* 3. *t.* 86. *f.* 2?—*C. I. f.* 49? Longitudinally oblong, subequilateral, white mottled with yellow or fulvous, with forty flattened serrated ribs which are angular at their sides, and the posterior ones transversely grooved; within white with a purple spot anteriorly. Length 3½.—*W. Indies.*—*More tumid and elongated than the last.*

*C. VENTRICOSUM.* *Brug.*—*Lam.* 22.—*D. p.* 121.—*W. t.* 5. *f.* 19.—*List. t.* 328. *f.* 165.—*E. t.* 299. *f.* 1.—*C. MACULATUM.* *Gm.* 3255. Very large, obliquely heart-shaped, longer than broad, very inequilateral, ventricose, subdepressed anteriorly, ferruginous with brown spots of irregular bands; with from thirty-three to

thirty-five depressed ribs, of which the first few anterior ones are flat and imbricated, a few posterior ones flattened and without the numerous scaly striæ, which cross the central ribs, which have one side rounded and are angular on the other.  $4\frac{1}{2}$ .—*S. Carolina*.

*C. RUGOSUM*. *Lam.* 23.—*C. I.* f. 32, 39, 41.—*Ch.* f. 191.—*E. t.* 297. f. 2.—*An. C. FLAVUM?* *Lin.*—*W. t.* 5. f. 24. Ovate, slightly rounded, longer than broad, inequilateral, whitish (with sometimes a rusty or tawny tinge) with from twenty-eight to thirty-two rounded and transversely wrinkled ribs which anteriorly are rough with scales.  $2\frac{1}{2}$ ... $2\frac{1}{2}$ .—*Ceylon, Java*.<sup>1</sup>

*C. SULCATUM*. 24.—*C. SERRATUM*. *Brug.* p. 229.—*C. OBLONGUM*. *D. p.* 122.—*Ch.* f. 190.—*E. t.* 298. f. 5.—*W. t.* 5. f. 23.—*C. FLAVUM*. *Born. t.* 3. f. 8. Longitudinally oblong, inequilateral, turgid, greenish yellow with the beaks reddish and smooth, grooved longitudinally except at the sides which are nearly smooth and the anterior one depressed; umbones obliquely incurved towards the posterior side, and the inner margin serrated. 3... $2\frac{1}{2}$ .—*Mediterranean*.

*C. LEVIGATUM*.\* *Pennant.*—*Lin.* 1123?—*D. p.* 123.—*Wood. G. C. t.* 54. f. 1.—*W. t.* 5. f. 21.—*Don. 2. t.* 54.—*C. SERRATUM*. *Lam.* 25.—*List. t.* 332. f. 169. Obliquely triangular, obovate, longer than broad, pale chestnut or brownish under an olive epidermis, anterior slope obliquely subtruncated, with obsolete radiating ribs except on the sides: pale flesh-colour within. 2... $1\frac{1}{2}$ .—*England*.

*C. SERRATUM*.\* *Lin.* 1123.—*D. p.* 124.—*C. LEVIGATUM*. *Lam.* 26.—*Ch.* f. 189.—*Turt. Biv. t.* 13. f. 5.—*Knorr. 2. t.* 20. f. 4. & 5, t. 10. f. 7.—*C. CITRINUM*. *Wood. G. C. t.* 54. f. 3.—*W. t.* 5. f. 22. Obovate, longer than broad, rather oblique, convex, glossy, thin, pale yellow with the anterior slope chestnut, with obsolete minute longitudinal striæ, except at the sides, a pink stain in front of the beaks: within stained with purplish rose near the hinge, the margin finely serrated.  $1\frac{1}{2}$ ... $1\frac{1}{2}$ .—*W. Indies, &c.*

*C. BIRADIATUM*. *Brug. Dict. p.* 231. no. 28.—*Lam.* 27.—*C. LINEATUM*. *D. p.* 123.—*Ch.* f. 185, 6.—*E. t.* 298. f. 6. Ovate oblong, compressed, longitudinally striated, white with large orange or reddish spots and sometimes with irregular interrupted bands of the same colour: white within, with two purple rays extending two-thirds downwards from the beaks. 2... $1\frac{1}{2}$ .—*Ceylon*.

*C. ÆOLICUM*. *Lam.* 28.—*Wood. G. C. t.* 57. f. 1.—*Ch.* f. 187.—*W. t.* 5. f. 40.—*C. PECTINATUM*. *Lin.* 1124.—*D. p.* 129.—*Kn.* 5. t. 26. f. 2.—*E. t.* 296. f. 4. Somewhat heart-shaped, gibbous, rounded ovate, with longitudinal striæ

<sup>1</sup> Compare with this the PECTINIFORME (*W. t.* 5. f. 37.) of *Born. t.* 3. f. 10.—(*D. p.* 156.)

anteriorly, and oblique transverse striæ posteriorly, pale yellowish white with scattered red spots, and six or seven oblique stripes of the same colour on the smooth anterior slope: within white tinged with yellow towards the beaks.  $2 \frac{1}{2} \dots 1 \frac{1}{2}$ .—*Indian Ocean*.

C. PECTINATUM. *Lam.* 29.—*Murray. Fund. Test. t. 3. f. 18.* Somewhat heart-shaped, transverse, whitish with twenty-five transversely and rather distantly grooved ribs, umbones yellowish.  $1 \frac{1}{2}$ .—*Mediterranean*.—"Less inequilateral than the two succeeding."—*LAM.* "Probably a variety of *Edule*."—*DESH.*

C. RUSTICUM. *Lam.* 30.—*Lin.* 1124.—*D.* p. 128.—*Ch. f. 193.* Transversely ovate, antiquated, with from twenty to twenty-two distant ribs and the interstices wrinkled and broader than in *Edule*; whitish with the umbones reddish brown, sometimes marked with yellowish bluish or brown bands: brown within. *Adriatic*.—*Probably a variety of Edule*.<sup>1</sup>

C. EDULE.\* *Lin.* 1124.—*D.* p. 127.—*Lam.* 31.—*W. t. 5. f. 26.*—*Ch. f. 194.*—*Pen. 4. t. 51. f. 40.*—*Wood. G. C. t. 55. f. 4.* Rounded heart-shaped, becoming obliquely heart-shaped from the anterior side being produced by age, with about twenty-six ribs, which are crossed by transverse wrinkled somewhat imbricated striæ, whitish or pale rust colour with the interior white and anteriorly stained with brown.—*Europe*.<sup>2</sup>

C. GROENLANDICUM.\* *Lam.* 32.—*Gmel.* 3232.—*D.* p. 129.—*E. t. 300. f. 7.*—(*YOUNG. Ch. f. 198.*)—*Gould. Mas. p. 92.*—*W. t. 5. f. 28.*—*MACTRA RADIATA. Don.* 5. t. 161.—*W. t. 6. f. 17.*—*Turt. Biv. p. 75.*—*D.* p. 138.—*C. EDENTULUM. Mont. Sow. G. f. 2.*—*APHRODITE COLUMBA. Lea. Am. Trans. 5. t. 18. f. 54.* Large, not thick, subtriangular, elevated, rather compressed, subequilateral, posteriorly rounded, anteriorly slightly gaping, ~~dark~~ coloured with very numerous obsolete radiating ridges: beaks slightly prominent, incurved; within salmon-coloured at the margin, the disc opaline: usually no cardinal teeth, the lateral small but distinct.  $2 \frac{3}{8} \dots 2 \frac{1}{2}$ .—*Young*, often with rusty brown stripes or angular markings.—*Atlantic*.

C. LATUM. *Gmel.* 3255.—*D.* p. 125.—*E. t. 296. f. 7.*—*Ch. f. 192, 3.*—*Wood. G. C. t. 57. f. 4, 5.*—*W. t. 5. f. 42.* Triangularly ovate, very inequilateral; whitish with yellow spots and irregular bands, and the beaks tinged with violet, with about forty flattened ribs, which are separated by very narrow and shallow grooves, and have a row of minute elevated points: within white, brownish near the beaks.  $1 \frac{1}{2} \dots 2$ .—*Tranquebar and Nicobar Isles*.

<sup>1</sup> C. FASCIATUM. of *Montagu. Sup. t. 27. f. 6. p. 30.*—*Turt. Biv. p. 189.*—*W. t. 5. f. 13.* is the young (fide *Sowerby* in *C. I.*) of this species.

<sup>2</sup> C. CRENULATUM. *Lam.* 54. is a Variety.

*C. EXIGUUM*.\* *Lam.* 35.—*Gmel.* 3255?—*D.* p. 114.—*List.* t. 317. f. 154.—*Turt. B.* p. 186.—*W.* t. 5. f. 6.—*Mont.* p. 82.—*C. PYGMÆUM.* *Don.* t. 32. f. 3. Very small, sub-triangular, the posterior side the shorter narrower and obliquely rounded, the anterior extremity obliquely angulated; pale tawny white, with from twenty to twenty-two ribs which are surmounted by short and somewhat arched tubercles. *Diam.*  $\frac{3}{4}$ .—*England.*

*C. MINUTUM.* *Lam.* 36. Very small, rhombic heart-shaped, pellucid white, with twenty rounded and transversely wrinkled ribs.  $\frac{3}{4}$ .—*New Holland.*

*C. ROSEUM.* *Lam.* 37. Very small, rounded heart-shaped, thin, pink, with numerous rounded transversely striated unarmed ribs.  $\frac{1}{2}$ .—*Cherbourg.*

*C. SINENSE.* *Sow. Jun. Z. P.* 1840.—*C. I.* f. 35. Rounded, anteriorly subrostrated, slightly grinning, somewhat expanded at the margin, covered with minute granules (especially posteriorly), pale fulvous; with twenty-three strong rounded ribs of which the eight anterior are narrower, fimbriated, and anteriorly sub-angulated: dorsal edge inflated, inner ventral very strongly toothed.  $1\frac{1}{2}$ .—*China.*

*C. LATICOSTATUM:* *Sow. Z. P.* 1833.—*C. I.* f. 30. Rounded, subventricose, anteriorly subangulated, grinning, pale with brown spots, and radiating ribs, of which the anterior ones are angulated, the rest broad and rounded; the interstices narrow. *Diam.*  $1\frac{1}{10}$ .—*Xipixapi.*

*C. STRIATULUM.* *Sow. Jun. Z. P.* 1840.—*C. I.* f. 16.  $\frac{3}{4}$  45.—*Reeve. t.* 86. f. 16. Thin, rounded, anteriorly subrostrated and with most minute radiating striæ, pale fulvous with pink striped bands (becoming obsolete by age): inside white, rayed with two red bands; the anterior striæ denticulated: epidermis brown.  $\frac{2}{3}$ ..1.—*N. Zealand, &c.*

*C. AUSTRALE.* *Sow. Jun. Z. P.* 1840.—*C. I.* f. 12.—*Reeve. t.* 85. f. 12. Obliquely ovate, thin, white, with spots (particularly at the smooth umbones) of reddish purple and brown, the sides with purple bands; sides and margins delicately grooved: a scar running from the apex to the anterior margin.  $1\frac{2}{3}$ ..1 $\frac{1}{2}$ .—*Australia and China.*

*C. CUMINGII.* *Brod. Z. P.* 1833.—*C. I.* f. 5.—*Reeve. t.* 84. f. 5. Equivalve tumid, fragile, rosy, diaphanous, elegantly cancellated, posteriorly wrinkled, the valves anteriorly gaping; a whitish posterior crest extending from the umbo to the ventral margin. 1.. $\frac{3}{4}$ .

*C. ASPERSUM.* *Sow. Z. P.* 1833.—*Reeve. t.* 85. f. 15.—*C. I.* f. 15. Transversely oval, subequilateral, anteriorly gaping, pale, marbled with reddish, serrated: with numerous radiating ribs, of

which the lateral ones are crenulated, the central flattened.  $1\frac{1}{2} \dots 1\frac{3}{4}$ .—*W. Columbia*.—(Like *Soleniforme*.)

*C. RINGICULUM*. *Sow. Jun. Z. P.* 1840.—*C. I. f.* 11.—*Reeve. t.* 85. *f.* 11. Longitudinally oval, small, thin, gaping on both sides; anteriorly elongated, somewhat sparse; the posterior ribs narrow and indistinct, the three central ones broad, flattened, at the margin strongly toothed, the ten anterior narrower, slightly elevated, toothed at the margin.—*Var.* Pale yellow.—*Var.* Tinged with red anteriorly.—*Ceylon*.

*C. ISLANDICUM*. *Lin.* 1124.—*D. p.* 128.—*Ch. f.* 195, 6.—*E. t.* 300. *f.* 8.—*W. t.* 5. *f.* 27.—*Gould. Mas. f.* 58.—(Young—*C. PUBESCENS. Couthouy.*) Large, thinnish, anteriorly longer, rather obliquely rounded ovate, tumid, with thirty-six or more three-sided sharp-edged radiating ribs, the intervening furrows rounded and regularly wrinkled by the lines of growth: beaks prominent, almost touching: epidermis yellowish brown, lax, and bristling into a stiff fringe on the sharp edge of the ribs: within straw coloured.  $1\frac{3}{4} \dots 2$ .—*N. America, Iceland, &c.*

*C. PUNCTULATUM*. *Brod. & Sow. Z. J.* 4.—*Reeve. t.* 84. *f.* 7.—*C. E. f.* 7. Suborbicular, with twenty-two elevated rounded ribs, the posterior ones, as well as the interstices covered with minute raised dots, the anterior with a slender horny fringe of epidermis on the front edges: marginal teeth large and deeply cut.  $1\frac{1}{10} \dots 1\frac{1}{2}$ .

*C. NODOSUM*.\* *Mont. p.* 81.—*Lin. Tr.* 8. *p.* 66.—*Wood. G. C. p.* 212.—*Turt. Biv. p.* 186. *t.* 13. *f.* 8. Orbicular sub-equilateral and rather flat, brown or whitish, very slightly angular anteriorly; with about twenty-six close set rounded ribs thickly clothed with obtuse round tubercles which project anteriorly into very short spines; inside white with generally a chestnut anterior stripe extending half way down the shell.  $\frac{1}{2} \dots \frac{1}{2}$ .—*England*.

*C. RIGIDUM*. *Wood. G. C. t.* 57. *f.* 2, 3.—*D. p.* 126.—*W. t.* 5. *f.* 41. Obliquely subcordate, obovate, anteriorly obtusely angulated and longer, whitish under a strongly adherent wrinkled epidermis, with not more than twenty-six prominent radiating ribs armed with small deciduous tubercles: inside white, the teeth strong.  $\frac{3}{4} \dots \frac{1}{2}$ .—*In the Banksian collection*.

*C. OVALE*.\* *Sow.*—*C. ELONGATUM*. *Mont. p.* 82.—*D. p.* 131.—*Turt. B. t.* 13. *f.* 9. *p.* 185. Oval and oblique, produced and a little angular anteriorly, tumid in the middle and sloping to the sides; pale rufous with some obscure darker anterior spots, twenty-five prickly ribs, the central flattened and separated by a fine line: beaks prominent.  $\frac{1}{2} \dots \frac{1}{2}$ .

*C. SICULUM*. *Sow. Jun. Z. P.* 1841.—*C. I. f.* 31. Thin, sub-quadrangular, ventricose, posteriorly narrow, anteriorly broad,

subangulated; white spotted with brown, the ribs numerous and flattened, the five posterior crenulated: interstices narrow.  $\frac{2}{3}$ .. $\frac{1}{2}$ .—*Sicily*.

C. PAUCICOSTATUM. *Sow. Jun. Z. P.* 1840.—*C. I. f.* 20.—*Reeve. t.* 86. *f.* 20. Rounded, ventricose, subequilateral, thin, yellowish white, waved with brown: with sixteen flattened smooth distant ribs which are armed in the middle with sharp tubercles; the interstices flattened. 1.. $1\frac{1}{2}$ .—*Malta*.

C. MULTISPINOSUM. *Sow. Jun. Z. P.* 1840.—*C. I. f.* 38. Rounded, ventricose, thin, anteriorly slightly gaping, pale fulvous, rosy at the margin and white within; with thirty-three smooth ribs, which are angulated on both sides; the spines numerous and acute; the interstices granular, elongated at the margin: dorsal edge tumid.  $2\frac{1}{2}$ .. $2\frac{1}{2}$ .—*Philippines*.

C. EXASPERATUM. *Sow. Jun. Z. P.* 1840.—*C. I. f.* 37. Ventricose, rounded-subquadrangular, white tinged with rose-colour at the margins; finely grooved; with numerous spines between the sulci.  $\frac{1}{2}$ .. $\frac{1}{2}$ .—*Swan River*.

C. PAPILLOSUM. *Poli. t.* 16. *f.* 2, 3, 4.—*C. I. f.* 59.—*Phil. p.* 51.—C. POLII. *Payr. p.* 57. Small, sub-orbicular, convex, whitish, anteriorly longer: with about twenty-four subequal flattened ribs, which are armed with short granular more or less distant papillae; interstices narrow, with impressed dots: inside spotted with purplish red.  $\frac{1}{2}$ .—*Mediterranean*.

C. GRANIFERUM. *Brod. & Sow. Z. J.* 4.—*Reeve. t.* 86. *f.* 17.—*C. I. f.* 17. Suborbicular, anteriorly angulated, white with sixteen radiating grained ribs, the anterior ones crowded, the posterior ones with larger granules; the interstices with elegant longitudinal striæ.  $\frac{1}{2}$ .. $\frac{2}{3}$ .—*Pacific*.

C. BELCHERI. *Brod. & Sow. Z. J.* 4. *tab.* 9. *f.* 3. Obovate, suboblique longer than broad, orange-yellow, redder anteriorly, with twenty-four radiating ribs of which the anterior have mucronated, the central serrated, and four or five posterior ones distantly tuberculated teeth, but all placed on the anterior edge, and only glossy posteriorly: posterior margins acutely serrated.  $1\frac{1}{2}$ .. $1\frac{1}{2}$ .—*California*.

C. SENTICOSUM. *Sow. Z. P.* 1833.—*Reeve. t.* 84. *f.* 10.—*C. I. f.* 10. Suborbicular, rather compressed, whitish, variegated with purplish brown; with about forty radiating ribs, of which the thirteen posterior ones are posteriorly granular, then two or three granular on each side, the rest anteriorly angulated, granular, the grains oblique and the anterior ones larger; the interstices narrow and transversely wrinkled: anterior side grinning, the marginal teeth strong and purplish.  $1\frac{1}{2}$ .. $1\frac{1}{2}$ .—*S. America*.—*Akin to Muricatam*.



*C. FOVEOLATUM.* *Sow. Jun. Z. P.* 1840.—*C. I. f.* 65. Of a somewhat rounded oval, longer than broad, compressed, white, with forty-three ribs, the twenty-five posterior rounded and crenulated, the adjoining ones smooth and subangulated, and the extreme anterior concave and crenulated at the sides.  $1\frac{1}{2}$ .. $1\frac{2}{3}$ .—*Swan River.*

*C. VARIEGATUM.* *Sow. Jun. Z. P.* 1840.—*C. I. f.* 57. Oval, subventricose, rosy, spotted with orange, red, brown, and white; with forty-eight ribs of which the posterior are rounded and crenulated, the central very angulated and smooth, the anterior rather flattened and armed with oblique tubercles.  $1\frac{1}{10}$ .. $1\frac{7}{10}$ .—*Philippines.*

*C. UNICOLOR.* *Sow. Jun. Z. P.* 1840.—*C. I. f.* 29. & 42. Oval, ventricose, anteriorly subelongated, slightly emarginated, white, obscurely spotted with purple, the epidermis thin and brown: ribs numerous, rounded and minutely crenulated, the extreme ones flattened.  $1\frac{1}{10}$ .. $1\frac{1}{4}$ .—*Ile of Ticao.*

*C. MACULOSUM.* *Wood. G. C. t.* 52. *f.* 1. *p.* 218.—*W. t.* 5. *f.* 17.—*C. I. f.* 63. Longitudinally oval, moderately thick, white mottled with livid red, about forty-eight narrow rounded radiating ribs, which are slightly broader than their interstices, and are armed with small tubercles only on about eight of the broader anterior ones, and on two or three of the extreme posterior, the central ribs being nearly smooth: inside white, with two short indistinct livid purple rays; the hinge anteriorly stained with purplish crimson.  $1\frac{1}{4}$ .

*C. MULTISTRIATUM.* *Sow. Z. P.* 1833.—*C. I. f.* 59. Ob-oval, pale fulvous, dotted with rufous: with numerous radiating striæ, the posterior ones decussated, the anterior ones subgranular.  $\frac{9}{10}$ .. $\frac{8}{10}$ .

*C. LINEATUM.* *Sow. Jun. Z. P.* 1840.—*C. I. f.* 6. & 66.—*Reeve. t.* 84. *f.* 6. Thick, wedge-shaped, subequilateral, narrowed at the dorsal edge, rounded at the ventral: white, obscurely spotted with brown, anteriorly banded with purple: with thirty-five subcrenulated dull ribs, the epidermis brown.  $1\frac{2}{10}$ .. $1\frac{1}{2}$ .—*China.*

*C. OXYGONUM.* *Sow. Jun. Z. P.* 1840.—*C. I. f.* 9.—*Reeve. t.* 84. *f.* 9. Oval, subventricose, narrow at the umbones, white spotted with red and brown, within white: with thirty-five ribs of which the eighteen posterior are strong, acutely angulated, crenulated on their posterior side and on the angles, the next nine acutely angulated, crenated at the angles but smooth at the sides, the extreme anterior ones narrow, smooth, with oblique tubercles.  $1\frac{3}{4}$ .. $1\frac{1}{4}$ .—*China.*

*C. SUBELONGATUM.* *Sow. Jun. Z. P.* 1840.—*C. I. f.* 61. Oval, subventricose, elongated, thick, slightly gaping anteriorly;

under a yellowish epidermis, white spotted with brown and red ; with thirty-two ribs of which the posterior are biangulated and crenated, the central smooth and biangulated, the anterior rounded smooth and armed with oblique tubercles.  $2\frac{1}{2} \dots 1\frac{1}{2}$ .—*W. Indies*.

*C. MACULATUM*. *C. I. f.* 18.—*C. MACCLOSTUM*. *Som. Z. P.* 1833. Oboval, subventricose, anteriorly somewhat sloping, marbled, with radiating ribs of which the posterior ones are flattened and their edges crenated, the anterior ones rounded : the interstices posteriorly very narrow.  $2\frac{1}{2} \dots 1\frac{1}{2}$ .—*California*.

*C. ENODE*. *Som. Jun. Z. P.* 1840.—*C. I. f.* 51. Oval, ventricose, anteriorly subexpanded, most strongly toothed ; pale fulvous with rosy bands ; within white, yellow under the umbones, purple at the margin : with thirty-eight flattened ribs, the posterior slightly crenated, the interstices very narrow.  $2\frac{1}{2} \dots 2\frac{1}{2}$ .—*Ceylon*.

*C. NUTTALII*. *Conn. Journ. A. N. S. Phil.* 7. p. 229. t. 17. f. 3. Ovate triangular, ventricose, thick, with thirty-four regularly rounded ribs with prominent arched striae ; umbo narrowed, summit very prominent ; anterior slope much depressed ; anterior margin straight, oblique, simply undulated ; ligamental margin declining, ventral edge regularly arcuated ; white with a yellowish brown epidermis : lateral teeth thick and prominent, margin profoundly serrated. Length  $3\frac{1}{2}$ .—*N. California*.<sup>1</sup>

*C. QUADRAGENARIUM*. *Conn. Journ. A. N. S. Phil.* 7. p. 230. t. 17. f. 5. Cordate, subequilateral, ventricose, thick, with forty to forty-two prominent subangular ribs, which are flattened at the side and armed with a row of small tubercles ; these largest on the posterior side where they are seated on the middle of the ribs, though elsewhere on the anterior angular margin ; umbo broad and prominent ; beaks not oblique, tubercles elevated on the anterior slope : pale yellow with fulvous spots and zones ; anterior margin direct, deeply serrated. Length 3.—*U. California. Allied to Asiaticum*.

*C. CALIFORNIANUM*. *Conn. Journ. A. N. S. Phil.* 7. p. 229. t. 17. f. 4. Suborbicular, ventricose, thickish, with thirty-four prominent slightly flattened ribs roughened by prominent arched striae which become obsolete on the back of the ribs in the middle of the valves : summit of the umbo prominent, beaks oblique ; yellowish with pale red spots : margin deeply serrated : anterior margin direct and undulated. Diam.  $1\frac{1}{2}$ .—*U. California*.


<sup>1</sup> Compare the young of *Nuttalii*, with the *C. ARCTICUM*. *Som. Jun. Z. P.* 1840.—*C. I. f.* 26. Oval, compressed, subequilateral ; with twenty-seven angular subcrenulated ribs ; the epidermis thick and olive brown (becoming by age eroded at the umbones) ; ligament elongated : central teeth obsolete, lateral distant.  $1\frac{1}{2} \dots 1\frac{1}{2}$ .—*Arctic Ocean*.

*C. SUBRUGOSUM.* Sow. Jun. Z. P. 1840.—*C. I. f.* 34. & 71. Thick, oval, ventricose (by age subacuminated anteriorly,) with thirty-three ribs of which the twenty-five posterior are rounded and crenulated, the extreme anterior smooth and scarcely elevated: epidermis brown.—*Variety A.* White with purple spots.—*Variety B.* White but yellow posteriorly.  $2\frac{1}{2} \dots 2\frac{3}{4}$ .—*Ceylon.*

*C. ALTERNATUM.* Sow. Jun. Z. P. 1840.—*C. I. f.* 64. Obliquely oval, compressed, subexpanded anteriorly, white with bands of yellow or yellowish brown spots under a brown epidermis: with thirty-two ribs, the posterior crenulated and subangulated, the succeeding anterior ones angulated but smooth posteriorly, the extreme anterior muricated, the interstices convex and grooved on each side.  $2\frac{1}{2} \dots 2\frac{3}{4}$ .—*Philippines.*

*C. PROCERUM.* Sow. Z. P. 1833.—*Reeve. t.* 77. *f.* 23.—*C. I. f.* 23. Ovate, the dorsal edge somewhat acuminate, pale with brown spots, posteriorly rounded, anteriorly subangulated; with twenty-five radiating ribs of which the four posterior ones are rather indistinct, the rest prominent, anteriorly angulated and somewhat wrinkled, the central ribs flattened and obtusely angulated on each side, the anterior ones posteriorly angulated, the interstices flattened: anterior side grinning, the marginal teeth strong; epidermis brown.  $3\frac{1}{10} \dots 3\frac{3}{10}$ .

*C. PANAMENSE.* Sow. Z. P. 1833.—*C. I. f.* 21.—*Reeve. t.* 76. *f.* 21.—*Beechey. Zool. t.* 42. *f.* 7. Oboval, posteriorly rounded, anteriorly subangulated, grinning; the posterior and central radiating ribs large and broad, at first angulated and finally rounded, the anterior ones narrower and posteriorly crenated.  $1\frac{9}{10} \dots 1\frac{1}{2}$ .—*Panama.*

*C. REFORMA.* Sow. Z. P. 1833.—*Reeve. t.* 83. *f.* 3.—*C. I. f.* 3.  oblique, smooth, very ventricose, yellow; with numerous radiating grooves, of which the central except the anterior are indistinct; the side areas are smooth and their margins toothless: the ventral margin toothed: epidermis thin.  $4\frac{1}{2} \dots 4$ .—*California.*

*C. ATTENUATUM.* Sow. Jun. Z. P. 1840. Smooth, wedge-shaped compressed, obliquely elongated, anteriorly somewhat flattened, covered with obscure striæ, toothed at the margin; yellow with red spots which are stronger anteriorly; white within.  $2\frac{1}{2} \dots 1\frac{1}{2}$ .—*Ceylon.*—*Figured in Wood. G. C. t.* 54. *f.* 2, as *Biradiatum.*

*C. MULTIPUNCTATUM.* Sow. Z. P. 1833.—*Reeve. t.* 75. *f.* 14.—*C. I. f.* 14. Oval, oblique, rather depressed, smooth, polished, pinkish fulvous with numerous darker spots and dots, and very close radiating striæ; anterior dorsal margin subangulated.  $1\frac{1}{2} \dots 1\frac{3}{10}$ .—*China.*

**C. ELENENSE.** *Sow. Jun. Z. P.* 1840.—*C. I. f.* 58. Thin, smooth, oval, subacuminated anteriorly, pale fulvous with brown and purple dots, the inside brown with red bands; umbones not prominent, spotted with purple.  $\frac{3}{4} \dots \frac{3}{4}$ .—*W. Columbia.*—*Very like Brasilianum.*

**C. SUBSTRIATUM.** *Conr. Jour. A. N. S. Phil.* 7. *p.* 228. *t.* 17. *f.* 2. Obliquely ovate, ventricose, thin, smooth, with the radiating striæ obsolete except at the base of the umbonal slope, yellowish variegated with brown, umbo and middle of the disc tinged with blue: inside yellow varied with brownish purple, markings, the margin finely serrate.  $\frac{3}{4}$ .—*W. California.*—*Possibly the young of another species.*

**C. MORTONI.** *Conr. Jour. A. N. S. Phil.* 6. *t.* 11. *f.* 5, 6, 7. —*Gould. Mas. p.* 91.—*C. I. f.* 53, 4? Subovate, oblique, subventricose, thin, destitute of ribs or radiating striæ, white under a pale brown epidermis, darker towards the margin, and wrinkled at the ends: inside striated, yellow, the margin entire or obsoletely serrated and whitish, generally an oblong black or dark purple spot on the anterior side. 1..1.—*United States.*

**C. FRAGILE.** *Sow. Jun. Z. P.* 1840.—*C. I. f.* 68. Rounded, thin, smooth, subequilateral, slightly inflated anteriorly, white lined with brown under a fulvous epidermis; within white, and reddish at the margin; yellow at the umbones; margin slightly grooved. 1..1 $\frac{1}{2}$ .

**C. LYRATUM.** *Sow. Jun. Z. P.* 1840.—*C. I. f.* 40. Ventricose, rounded subequilateral, ~~pale fulvous~~ under a purplish red epidermis, within golden yellow; ~~posteriorly~~ decussated with plaits, the ribs numerous, the posterior very fine, the central stronger, the anterior distant and angulated. 1 $\frac{7}{10}$ ..1 $\frac{7}{10}$ .—*Philippines.*—*Closely resembling Eolicum, but without the smooth anterior area.*

\* \* *Beaks carinated or provided with an angle; posterior side often longer than the anterior.*

**C. UNEDO.** *Lin.* 1123.—*D. p.* 119.—*Lam.* 39.—*Ch. f.* 168, 9.—*E. t.* 295. *f.* 4.—*Wood. G. C. t.* 58. *f.* 3.—*W. t.* 5. *f.* 50. Somewhat heart-shaped, rounded, turgid, the anterior extremity forming an angle above and projecting; white, with numerous purplish red crescent-shaped elevated markings on the polished and rounded ribs: margin strongly serrated anteriorly. 2..1 $\frac{1}{4}$ .—*E. Indies.*

**C. MEDIUM.** *Lin.* 1121.—*D. p.* 113.—*Lam.* 40.—*W. t.* 5. *f.* 5.—*Ch. f.* 162, 3, 4.—*E. t.* 296. *f.* 1.—*Wood. G. C. t.* 50. *f.* 3.—Somewhat heart-shaped, turgid, whitish clouded and spotted with rufous and brown, marked with strong longitudinal rounded ribs, which are separated by almost equally broad furrows and crossed by minute transverse striæ; the anterior side is somewhat

ribs longitudinally striated, the posterior ones subcrenated, the anterior rugulose, the interstices dotted.  $\frac{9}{10}$ .

C. PLANICOSTATUM. *Sow. Z. P.* 1833.—*Reeve. t.* 77. *f.* 25.—*C. I. f.* 25. Subcordate, palish, variegated with brown and fulvous; posteriorly rounded, anteriorly truncated and obtusely angulated, the centre of the anterior area rather prominent; with thirty flattened sharp-edged radiating ribs, of which the posterior ones are transversely costellated, the anterior ones anteriorly crenulated and all of them closely striated transversely; the umbones prominent: a deep depression under the umbones is posteriorly conspicuous. *C. America.*  $1\frac{1}{2}$ ..  $1\frac{1}{2}$ .—*Closely resembling Medium.*

C. DONACIFORME. *Schröter. Ein.* 3. *p.* 68. *t.* 7. *f.* 14.—*Brug. p.* 214.—*W. t.* 5. *f.* 38.—*Gmel.* 3247.—*D. p.* 114.—*Ch. f.* 165.—*C. I. f.* 27. Subtriangular, thick, posteriorly rounded and attenuated; anteriorly very short, the slope flattened; ventral edge strongly arcuated and subincurved anteriorly; white, marbled with, and the anterior slope almost entirely, livid brown, with radiating grooves, which become obsolete at one end: inside white, the margin strongly dentated.  $\frac{2}{3}$ .. 1.—*Much resembling Donax Cardioides.*

C. SUBRETUSUM. *Sow. Jun. Z. P.* 1840.—*C. I. f.* 24.—*Reeve. t.* 86. *f.* 24.—White, obliquely subquadrangular, ventricose, anteriorly subcarinated and acuminate, posteriorly subrotund; before the angle flattened and slightly grooved, behind the angle with six tuberculated ribs, interstices dotted: a heart-shaped cavity close under the umbones, a slight callus within it.  $1\frac{1}{10}$ ..  $1\frac{6}{10}$ .

#### CARDITA.

*Shell free, regular, equivalve, inequilateral; hinge with two unequal teeth; primary tooth short, direct, placed under the umbo; the other oblique, marginal, and produced under the corselet.*

\* *Subcordiform or oval.*

C. SULCATA. *Lam.* 1.—*Philippi. p.* 53. CHAMA ANTIQUATA. *Lin.* 1138.—*D. p.* 215.—*Poli. t.* 23. *f.* 11 to 19.—*Ch. f.* 488, 9. Subcordate, anteriorly longer, white with brown and rufous markings and the beaks white; longitudinal ribs convex and transversely striated so as to give rise to numerous little tubercles.  $1\frac{1}{2}$ .—*Mediterranean.*

C. AJAR. *Brug. Dict. p.* 406.—*Lam.* 2.—*Adans. Seneg. t.* 16. *f.* 2.—CHAMA A. *D. p.* 216. Somewhat heart-shaped, slightly produced anteriorly, rufous scarcely spotted with white, with from twenty-one to twenty-six angulated compressed radiating ribs, whose sides are angulated and backs crowded with rows of scale-

like tubercles, the interstices much broader than the ribs, the lunule small and excavated.—*Senegal. (Reeve. Ic. t. 6. f. 23. good.)*

*C. TURGIDA. Lam. 3.* Obliquely heart-shaped, broader than long, tumid, posterior side very short and obtuse, with from eighteen to twenty longitudinal sub-angulated crenulated ribs: anterior slope broad and the posterior depression sunken and rounded heart-shaped. *Variety*, smaller with the anterior depression more elevated and the crenations of the ribs more numerous.  $1\frac{1}{2}$ ..2.—*Indian Ocean.*<sup>1</sup>

*C. INTERMEDIA. Lam. 6.* Obliquely heart-shaped, transverse, the posterior side very short; transparent, with separated rounded and crenulated ribs the posterior ones grooved at the sides.—*New Holland.* (Exactly resembles the fossil represented in Brocchi Conch. t. 12. f. 15. Is it a recent shell at all?)

*C. TRAPEZIA. Lam. 9.—CHAMA T. Lin. 1138.—D. p. 216.—E. t. 234. f. 7.—Ch. f. 2005, 6.—W. t. 9. f. 8.* Trapeziform, with about nineteen or twenty crenulated ribs and the margin plaited, rather tumid, reddish and transparent: paler within.  $\frac{1}{4}$ .. $\frac{1}{2}$ .—*Norway. Mediterranean?*

*C. BICOLOR. Lam. 10.—Reeve. Ic. t. 6. f. 29.—CHAMA ANTIQUATA. Lin.—E. t. 233. f. 2, 3.—Ch. f. 490, 1.—W. t. 9. f. 4.* Obliquely heart-shaped, attenuated produced and subangulated anteriorly, white spotted with rufous on the angular ribs which have their upper surface flattened and most of them smooth, but the posterior ones thickly crenulated, inside uniform whitish. *Variety*, smaller, not produced but crenated also posteriorly. (*Ch. f. 488, 9.*)  $1\frac{1}{2}$ .—*Africa.*

*C. DEPRESSA. Lam. 11.* Oblique, oval, depressed, white somewhat ferruginous, with crowded and moderately convex ribs which become indistinct anteriorly.  $1\frac{1}{2}$ .—*Looks like a fossil.*

*C. BOREALIS. Contr. Am. M. C. p. 39. t. 8. f. 1.—Beechey. Zool. t. 44. f. 1.—Gould. Mas. f. 59. p. 94.* Rounded, obliquely heart-shaped, thick, strong, inequilateral, beaks prominent and recurved; with about twenty rounded radiating ribs which are broader than their rough interstices; epidermis rusty brown; lunule small, deep, rhomboidal; margin strongly crenated; inside white; hinge with two teeth in each valve.—*N. America.*

*C. CRASSA. Sow. in Beechey. Zool. p. 152. t. 42. f. 4.* Obovate, subquadrate, very turgid, thick, roughish, white with a brown cuticle; posteriorly very short scarcely projecting beyond the umbones; with fifteen or sixteen broad rounded radiating ridges, the interstices narrow; decussated near the umbones which are involute: ligament in a deep depression of the dorsal edge; inner margin irregularly undulated.  $1\frac{1}{2}$ .—*Acapulco.*

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<sup>1</sup> *C. SQUAMOSA. Lam. 4.* is a large Trapezia.—*Desh.*

C. CUVIERI. *Brod. Z. P.* 1832.—*Reeve. Ic. t. 5. f. 24.* Subcordate, whitish, mottled with rufous; with broad and very elevated radiating ribs which are flat above and armed with geniculated nodosities: within white: epidermis brown.  $2\frac{7}{10} \dots 2\frac{8}{10}$ .—*Central America.*

C. TUMIDA. *Brod. Z. P.* 1832.—*Reeve. Ic. t. 5. f. 26.* Subtriangular, tumid, with broad radiating somewhat depressed ribs, flesh colour or tawny variegated with purplish-chesnut and yellow spots; the umbones recurved and subacuminated; the lunule depressed, and the epidermis brown.  $2\frac{1}{2} \dots 2$ .—*Central America.*

C. VARIA. *Brod. Z. P.* 1832.—*Reeve. Ic. t. 5. f. 25.* Subtriangular, with depressed radiating ribs, violet-chesnut mottled by white spots: depressions excavated: beaks much recurved.  $1\frac{1}{2} \dots 1\frac{1}{2}$ .—*Gallapagos.*

C. TRICOLOR. *Sow. Z. P.* 1832. Rhombic ovate, broader than long, with radiating ribs, whitish with brown bands, the anterior dorsal margin and the short posterior side, orange: anteriorly longer; the ribs (particularly posteriorly) subgranular. 1, 1 . . 1, 5. *Central America.*—*Probably a variety of the next.*

C. LATICOSTATA. *Sow. Z. P.* 1832. Ovate rhombic, turgid, broader than long, with radiating ribs, a rather tawny epidermis, and brown bands; anterior dorsal margin rather elevated; the ribs broad, especially the posterior, decussated by raised lines. 1, 6 . . 2, 1. —*Central America.*

C. SPURCA. *Sow. Z. P.* 1832. Ovate-oblong, white under an olive epidermis, with prominent granular radiating ribs: anterior side angular towards the dorsal edge.  $\frac{7}{10} \dots 1$ .—*Peru.*

\* \* *More or less oblong.*

C. MURICATA. *Sow. Z. P.* 1832. Oblong, whitish, with muricated radiating ribs which anteriorly are large and distant, posteriorly are smaller and closer, posterior side extremely short. 0, 55 . . 1, 1.—*Pacific.*

C. PHRENETICA. *Lam.* 12.—*CHAMA SUBORBICULATA. Lin.* 1138?—*D. p.* 217.—*E. t.* 233. *f.* 4.—*Ch. f.* 502, 3.—*W. t.* 9. *f.* 9. Oblong, compressed rounder and broader towards the margin, with longitudinal grooves decussated by transverse striae, reddish brown with the posterior side whitish and similarly coloured within; posterior margin crenulated. 3 . . 2.—*Red Sea.*

C. CRASSICOSTA. *Lam.* 13.—*Adans. Sen. t.* 15. *f.* 8?—*E. t.* 234. *f.* 7? Elongated, posteriorly contracted and sinuous, white with purple and chesnut lines or spots, the ten or twelve thick ribs armed with imbricated obtuse scales which become semi-erect towards the margin: inner margin simply waved.  $2\frac{1}{2}$ .—*Senegal.*<sup>1</sup>

<sup>1</sup> I have received specimens named by M. Deshayes, and brought from Senegal by M. Rang. Whether they are the Crassicoستا of

*C. RUFESCENS.* Lam. 14.—*List. t.* 347. *f.* 185? Oblong, posteriorly contracted and sinuous, reddish fulvous with seventeen ribs armed with imbricated flattened scales; margin waved.—*General appearance of last.*)—*Gulph of Nicoya.*

*C. VARIEGATA.* Brug.—CHAMA CALYCVLATA. *D. p.* 217.—*List. t.* 347. *f.* 184.—*Ch. f.* 500, 1.—*W. t.* 9. *f.* 10.—CARDITA *C. Lam.* 15.—*Sow. G.—Reeve. t.* 89. *f.* 2. Oblong, anteriorly refuse, increasing in breadth towards the margin, white with brown crescent spots and twenty or twenty-one ribs of which the lateral ones are crenated, the central armed with arched imbricated depressed scales; white within with the margin plaited by the exterior ribs. 2.—*Atlantic Ocean.*<sup>2</sup>

*C. NODULOSA.* Lam. 17.—*E. t.* 234. *f.* 1.—*Ch. f.* 1999 to 2002?—*Del. t.* 11. *f.* 8. Oblong trapeziform, gibbous, reddish rufous with sixteen rounded ribs armed with nodose crenulations: margin entire. 1½.—*New Holland.—Chinese Variety.* Mottled with white and rufous.

*C. CALYCVLATA.* Brug. *p.* 408. (*excluding his synonym of Adanson.*)—*C. SINUATA.* Lam. 18.—CHAMA CALYCVLATA. *Lin.* 1138.—*An. Gual. t.* 90. *F?*—*Poli. 2. t.* 23. *f.* 7, 8, 9. Oblong, whitish, posterior side with two sinuosities one deeper than the

Lamarck, I know not, but as to their identity with the Squamosa of Mr. Sowerby (in *Tank. Cat.*) there can be no doubt. They are of an oblong shape with the ventral and dorsal edges almost parallel and little curved. The ribs are in number sixteen, armed with depressed scales, convex, and not broader than their interstices. The lunule is minute and the inside pure white. The exterior under a tawny epidermis is either dirty white or orange red. The statement of Lamarck, that the ribs are but ten or twelve and that it is contracted and sinuated posteriorly, would agree better with Mr. Sowerby's Squamifera, which I will now describe.

*C. SQUAMIFERA.* Sow. in *Tank. Cat.* Oblong, contracted and sinuated posteriorly, expanded anteriorly; uniform purplish red or yellow, about twelve convex ribs armed with strong erect scales, the three subanterior ribs infinitely the larger, interstices rather broad: lunule minute: uniform whitish within, the margin slightly waved. 2.

<sup>2</sup> *C. SUBASPERA.* Lam. 16.—*Del. t.* 11. *f.* 9.—*C. VARIEGATA.* Brug. no. 6. Oblong, gibbous, whitish, with twenty-three rufous imbricated scaly ribs; the scales arched semi-erect and subacute: margin crenated. 1½.—*As Deshayes declares that the Variegata of Brugiere is Lamarck's C. Calyculata, and the latter author founds this species on the identical specimen which Brugiere has described, it is probable that this species may be only a variety of the last.*



other, with eighteen imbricated and scaly ribs; within with a brown or violet spot anteriorly or covering the surface, the lateral tooth rather acute.  $1\frac{1}{2}$ .—*Mediterranean?*

C. CONCAMERATA. *Lam.* 19.—*CHAMA C. Lin.* 3304.—*D. p.* 219.—*Ch. f.* 506.—*E. t.* 234.*f.* 6.—*W. t.* 9.*f.* 15. Ovate oblong, whitish within and without, with longitudinal ribs which are transversely striated and somewhat crenated; the inner margin contracted and appearing as if doubled over in the middle so as to form an opposite ovate chamber in each valve.  $\frac{1}{2}$  ..  $\frac{1}{3}$ .—*W. Indies.*

C. AVICULINA. *Lam.* 20.—*Del. t.* 11.*f.* 10. Ovate oblong, with (in the largest specimens) orange spots on the ribs; the longitudinal ribs armed with imbricated scales which become arched and semi-erect as they recede from the beaks; inside white. 1.—*New Holland.*—(Very close to, and possibly a variety of, *Lamarck's Calyculata.*)

C. CITRINA. *Lam.* 21. Oblong spatulate, citron yellow, the longitudinal ribs crowded with imbricated scales which are more erect towards the margin and at the posterior extremity; white within.  $\frac{1}{2}$ .—*New Holland.*—(Probably a young *Crassicosta.* *DESH.*)<sup>1</sup>

C. SUBLÆVIGATA. *Lam.* 22. Oval oblong, with white and rufous zones and irregular rays, with very delicate transverse striae and the margin quite entire.  $\frac{2}{3}$ .—(In shape and hinge resembling a *Cypricardia.*—*DESH.*)

C. CORBULARIS. *Lam.* 23. Oval, somewhat trapeziform, thin, smooth, posterior side very short; margin quite entire.  $\frac{1}{2}$ .—*On Corallines.*

C. LITHOPHAGELLA. *Lam.* 24.—*Del. t.* 11.*f.* 11. Oblong, cylindraceous, thin, compressed towards the margin, anteriorly dilated and obtusely truncated, ventral and ligamental edges subparallel and straightish, whitish with the beaks fulvous, very delicately striated transversely: the angle oblique and obtuse.  $\frac{1}{2}$ .—*Europe?*—Having the aspect but not the hinge of *Cypricardiu Coralliophaga.*

C. RADIATA. *Sow. Z. P.* 1832.—*Reeve. Ic. t.* 1.*f.* 5. Oblong, palish, variegated with fuscous spots and bands; the posterior side

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<sup>1</sup> I have not seen this species, but from its description, it seems allied to, if not identical with, the *C. SQUAMOSA. Sow. Tank. Cat.*—*An. E. t.* 234.*f.* 3. Oblong, variable in colour being white orange-red, &c., but never spotted, armed with sixteen scaly radiating ribs; the scales semi-erect and much more crowded on the narrower and closer posterior ribs; ventral edge but slightly waved, not sinuated.  $\frac{2}{3}$  ..  $1\frac{1}{2}$ .—*Senegal.*—See my note on *Crassicosta* of which species this is possibly a variety.

short, the anterior elongated; with a few broad radiating ribs, the posterior ones transversely decussated, the central anteriorly angulated, the anterior rounded, dorsal edge scaly.  $\frac{2}{10} \dots 2\frac{1}{10}$ .—*West Colombia, and Panama.*

C. AFFINIS. *Sow. Z. P.* 1832.—*Reeve. Ic. t. 1. f. 6.* Oblong, pale mottled with fuscous, posteriorly short, anteriorly elongated; a few radiating broad ribs which posteriorly are somewhat indistinct, anteriorly prominent angular and rather scaly.  $\frac{2}{10} \dots 1\frac{3}{5}$ .—*Central America.—Is this distinct from Pectunculus?*

C. PECTUNCULUS. *Brug. p.* 412.—*Reeve. Ic. t. 1. f. 4.*—CHAMA P. *D. p.* 220.—*W. t. 9. f. 16.*—*Lis. t. 347. f. 185.* Transversely elongated, oblong, rounded at both ends, posteriorly very short, anteriorly produced and rather dilated, ventral edge incurved subcentrally: thick moderately convex, brownish, with from eighteen to twenty smooth convex radiating ribs: inside reddish.  $\frac{1}{4} \dots 1\frac{1}{2}$ .—*South America?*

C. INCRASSATA. *Sow. Tank.*—*W. S. t. 2. f. 3.*—C. RUBICUNDA, *Menke Cat.* Transversely oblong, subrhombic, the ligamental edge being almost parallel to the scarcely curved ventral, posteriorly very short; white or orange flesh colour, with sixteen thickened, elevated, rounded, crenated ribs, the interstices narrow: uniform white within.<sup>2</sup>

#### CYPRICARDIA.

*Free, equivalve, inequilateral, obliquely or transversely elongated; primary teeth three, situated under the beaks, and one lateral tooth produced under the anterior depression.*

C. GUINIACA. *Lam. 1.*—CHAMA OBLONGA. *Lin. 1139. D. p. 219.*—*Ch. f. 504, 5.*—*E. t. 234. f. 2.*—*Bl. t. 65. bis. f. 6.*—*W. t. 9. f. 14.*—Oblong, the anterior slope obliquely angulated and compressed towards its extremity, yellowish white, decussated by fine striæ, apex rounded: white within.  $2\frac{3}{4}$ .—*Guinea.—Has the look of a Modiola.*<sup>3</sup>

C. ANGULATA. *Lam. 2.*—*Ch. f. 1993, 4.*—CHAMA ROSTRATA. *W. S. t. 2. f. 2.* Oblong, obliquely angulated anteriorly, transversely grooved and decussated by longitudinal striæ, white and slightly gaping at the base of the anterior side which is obliquely

<sup>2</sup> Probably the VENUS ACULEATA of Gmelin, (*Schræt. Ein. t. 8. f. 13.*—*D. p. 198.*—*W. t. 8. f. 89.*) belongs to this genus, being described as having two cardinal teeth in each valve.

<sup>3</sup> C. CALIFORNICA of *Conrad* differs not in description from this species.—Add the C. OBLONGA of *Sowerby* (not of *Lin.*) C. ANGULATA of *W. S. t. 2. f. 1.*

truncated and carinated with its slope more or less concave: teeth and anterior end often tinged with purple internally: anterior dorsal edge rather incurved.—*Variety*. C. ROSTRATA. Lam. 3. With the anterior side produced attenuated and slightly beaked.  $1\frac{1}{2}$ .—*New Holland*.

C. CORALLIOPHAGA. Lam. 4.—Bl. t. 76. f. 3.—CHAMA C. Gmel. 3305.—D. p. 220.—W. t. 9. f. 17.—Ch. f. 1673, 4. Oblong, rounded at both extremities, cylindraceous, thin, white tipped with purple at the beaks, diaphanous, compressed anteriorly; marked with decussated striae which at the margin are raised into low ridges. 2.—*In Madreporas at St. Domingo*. (Bears some resemblance to *Mytilus Lithophagus*.)

#### HIATELLA.

*Equivalve, very inequilateral and transverse; gaping at the ventral margin; hinge with a small tooth in the right valve; and two oblique somewhat larger ones in the left valve; ligament external.*

H. ARCTICA.\* Lam.—Turt. Biv. t. 2. f. 12.—SOLENI MINUTUS. Lin. 1115.—W. t. 3. f. 33.—D. p. 69.—Mont. t. 1. f. 4.—Ch. f. 51, 2.—SAXICAVA A. Phil. t. 3. f. 3. Oblong, produced and truncated anteriorly, white with transverse wrinkles, ligamental edge subincurved, anterior slope with two oblique ridges usually armed with spines.—*Variety*. Without the spines. (H. OBLONGA. Turt. Biv. t. 2. f. 13.)  $\frac{1}{2}$ .—*Atlantic and Mediterranean*.<sup>1</sup>

#### ISOCARDIA.

*Equivalve, heart-shaped, ventricose; beaks distant, divergent, and spirally turned to one side; hinge with two primary flattened teeth, one of them recurved and under the beak; an elongated lateral one under the ligament which is external and forked on one side.*

I. COR.\* Lam. 1.—Bl. t. 69. f. 2.—CHAMA COR. Lin. 1137.—D. p. 212.—Ch. f. 483.—E. t. 232. f. 1.—Don. 4. t. 134.—W. t. 9. f. 1. Heart-shaped, globose, smooth, fulvous and the beaks clouded with white; epidermis reddish. 3..  $2\frac{1}{2}$ .—*Europe*.

I. MOLTRIANA. Lam. 3.—CHAMA M. D. p. 213.—Ch. f. 484, 5, 6, 7.—E. t. 233. f. 1.—CARDITA M. Brug. Dic. p. 404. Heart-shaped, subtriangular, inequilateral, yellowish white,

<sup>1</sup> Compare MYTILUS PRACISUS of Montagu. t. 4. f. 2.—(W. t. 12. f. 11.)

obliquely grooved, the valves carinated; anterior side the shorter, smooth and depressed. *An. VAR.?* *Sow. G. f. 3.*—*Reeve. t. 78. f. 3.* Ribs closer and as well as the umbonal ridge, more obtuse. 1.—*China and the Indian Ocean.*

I. SEMISULCATA. *Lam. 4.* Heart-shaped, thin, semi-transparent, white, transversely striated; anterior side with ten longitudinal grooves.<sup>2</sup>

TRIBE ARCACEA.

*Primary teeth small, numerous, and disposed in a line in each valve, which is either straight arched or broken, the teeth of one valve fitting into the intermediate spaces of the other valve.*

CUCULLEA.

*Equivalve, inequilateral, trapeziform, ventricose; beaks distant, separated by the area of the ligament; anterior muscular impression elevated, its margin angulated, or with an eared produced border; teeth of the hinge straight, very small, and set transversely, with from two to five small parallel ribs; ligament external.*

C. AURICULIFERA. *Lam. 1.*—*Sow. G.*—*Reeve. t. 81. f. 1, 2, 3.*—ARCA CUCULLEA. *Gmel. 3311.*—*W. t. 9. f. 16.*—A. CONCAMERATA. *D. p. 232.*—*E. t. 304.*—*Ch. f. 526, 7.* Obliquely heart-shaped, rhombic, cinnamon colour, ventricose, decussated by striæ of which the longitudinal ones are the stronger; within whitish, stained anteriorly with reddish or pale violet brown, with a laminar appendage proceeding from under the beak; hinge with two large teeth at each extremity.  $2\frac{1}{2} \dots 3\frac{1}{2}$ .—*Nicobar Isles.*

ARCA.

*Transverse, subequivalve, inequilateral; beaks remote, separated by the area of the ligament; hinge linear, straight, without ribs at the extremities; teeth of the hinge numerous, arranged in a row, serrated, close set, alternately inserted into opposite valves; ligament entirely external.*

<sup>2</sup> For this species Deshayes proposes the establishment of the genus CARDILIA. Oval-oblong, longitudinal, heart-shaped, ventricose, the beaks large and prominent; hinge with a small cardinal recurved tooth, a pit at the side and a spoon-shaped projection for receiving an internal ligament: anterior muscular scar rounded and superficial, the posterior placed on a thin horizontal plate which projects from beneath the hinge.

**A. CYLINDRICA.** *W. S. t.* 2. *f.* 3. Transversely elongated, very inequilateral, margins subparallel, scarcely at all sinuated.  $1\frac{1}{2}$ .. $2\frac{1}{2}$ .—*Mediterranean*.—*West Indies*. With age the length increases more on the anterior than the posterior side, and the hinge consequently is nearer the centre in the young than in older specimens.

**A. FUSCA.** *Brug.*—*Lam.* 14.—**A. BICOLORATA.** *W. t.* 9. *f.* 11. **A. BARBATA.** *VAR. B.* *Gmel.* 3307.—*D. p.* 231.—*List. t.* 231. *f.* 65.—*Ch. f.* 534.—*E. t.* 308. *f.* 5. Oblong, rounded at both ends though slightly angulated anteriorly, depressed, covered with a woolly brown epidermis, reddish chocolate with a white ray extending from the depressed and whitish umbones a little way down the anterior slope, with numerous fine longitudinal granulated ribs and delicate transverse striae; the margin all but closed.  $1\frac{1}{2}$ .—*West Indies*.—*Beside the crenulations of the hinge, finer ones line the posterior and anterior margins.*

**A. MAGELLANICA.** *Gmel.* 3311.—*D. p.* 229.—*Lam.* 15.—*Ch. f.* 539.—*E. t.* 309. *f.* 4.—*W. t.* 9. *f.* 9. Transversely oblong, curved, contracted in the middle of the margin, posterior side the shorter and narrower, white or slightly ferruginous under a dark brown somewhat bearded epidermis; decussated by striae, the umbones approximated and the margin gaping.  $2\frac{1}{2}$ .—*Straits of Magellan.*

**A. LACTEA.\*** *Lin.* 1141.—*D. p.* 236.—*Lam.* 17.—*List. t.* 235. *f.* 69.—*Pen. 4. t.* 58. *f.* 59.—*W. t.* 9. *f.* 24. Oblong, subequilateral, rounded posteriorly, angular anteriorly, white with a brown velvety epidermis and crowded longitudinal grooves, merely crossed by the wrinkles of growth; area between the beaks very sunken; white within.  $\frac{1}{4}$ .. $\frac{3}{4}$ .—*Europe.*

**A. PISTACHIA.** *Lam.* 19. Ovate, grey, with decussated striae, the beaks approximated and the valves internally striated and dark brown.  $\frac{3}{4}$ .—*Timor and South Seas.* *Smaller but scarcely differing from A. Fusca.*

**A. PISOLINA.** *Lam.* 20. Very small, obovate, ventricose, decussated by striae of which the longitudinal ones are the more prominent; beaks approximated, pearly within.  $\frac{1}{4}$ .—*New Holland.* *Not unlike Lactea in shape.*

**A. CANCELLARIA.** *Lam.* 21. Oval, quadrangular, violet brown within and without, with longitudinal granular furrows and transverse striae; beaks approximated.  $\frac{3}{4}$ .—*Closely resembling Lactea in shape but more inequilateral and has some affinity also to Pisolina.*

**A. CALLIFERA.** *Lam.* 22. Oval oblong, rounded at each extremity, violet brown, with longitudinal transversely striated

grooves: extremities of the hinge gibbous and callous: beaks oblique, approximated and but little prominent.  $\frac{2}{3}$ .

A. IRUDINA. *Lam.* 23. Oval, tumid, with decussated striæ, scaly at the margin and anterior extremity: beaks approximated and oblique.  $\frac{2}{3}$ .—(*Closely resembling Venerupis Irus.*)

A. LACERATA. *Lin. mus. Tessin.* p. 116. no. 2.  $\frac{2}{3}$  t. 16. f. 1. —*D. p.* 229.—*Lam.* 38.—*W. t.* 9. f. 10.—*Ch. f.* 536, 7.—*E. t.* 309. f. 2. Transversely subovate, depressed, very inequilateral, brown under a greenish epidermis, with longitudinal radiating striæ, which are ragged and ciliated, granular and unequal, the elongated hair of the epidermis disposed on them at regular distances: margin subcrenated and closed, ligamental area so narrow that the beaks touch. 2.—*India.*

A. RETICULATA. *Gmel.* 3311.—*D. p.* 237.—*Lam.* 39.—*Ch. f.* 540.—*W. t.* 9. f. 25. Ovate, rhomboidal, very inequilateral, somewhat compressed, white under a brown epidermis, with fine equal decussated striæ; umbones minute and approximated; area between the beaks narrow, and finely grooved.—*India.*

A. GAIMARDII. *Payr. Cat. p.* 61. t. 1. f. 36. to 39. Small, whitish, quadrilateral, and equilateral, heart-shaped, ventricose, covered with a fine net work of longitudinal and transverse striæ; beaks large, approximated and recurved, and the area between them forming a narrow deep channel.—*Corsica and Sicily.*

A. GRADATA. *Brod. & Sow. Z. J.* 4.—*Beechey. Zool. t.* 43. f. 1. Oblong, anteriorly angulated: with concentric ribs which are radiatingly imbricated, forming as it were steps down to the ventral margin.  $\frac{2}{3}$  . . 1.—*Mexico.*

A. PACIFICA.—BYSSOARCA P. *Sow. Z. P.* 1833. Oblong, pale variably streaked with brown; with radiating ribs: contracted in the middle, and the ribs smaller: umbones far apart: posterior side the shorter, acuminate dorsally, the ribs for the most part larger, wrinkled, the ventral margin sloping: anterior side very large, anteriorly emarginated, an obtuse keel from the umbo to the ventral margin: ligamental area very large, the margins broad: the gape in the ventral margin large.  $2\frac{1}{3}$  . . 4.—*W. Columbia.*

A. DIVARICATA.—BYSSOARCA D. *Sow. Z. P.* 1833. Oblong, whitish, with transverse grooves, which are radiatingly decussated; posterior side subangulated dorsally, the anterior with a spinous keel from the umbo to the ventral margin, and divaricating striæ, which are elegantly decussated; ligamental area narrow.  $\frac{1}{2}$  . . 1.—*Pacific.*

A. SOLIDA.—BYSSOARCA S. *Sow. Z. P.* 1833. Squarish-ovate, thick, solid, equilateral, with radiating striæ, most minutely decussated; posterior side rounded, anterior obtusely angulated; dorsally and obsoletely carinated; ligamental area elongated, the ligament rhomboid, central.  $\frac{2}{3}$  . .  $\frac{2}{3}$ .—*Peru.*

A. TRUNCATA.—BYSSOARCA T. *Sow. Z. P.* 1833. Oblong, boat-shaped, brown, with radiating granular striæ centrally and posteriorly, anteriorly with an obtuse keel from the umbo to the margin, and radiating ribs which as well as their interstices, are obtuse and wrinkled: posterior side very short, angulated above and rounded near the ventral edge, the anterior elongated and abruptly truncated: ligamental area elongated and broad, the ligament quadrangular and only attached near the posterior portion of the area.  $1\frac{1}{2} \dots 2\frac{3}{4}$ .—*Gallapagos*.

A. ALTERNATA.—BYSSOARCA A. *Sow. in Z. P.* 1833. Oblong, subcylindrical, pale brown with radiating striæ and deep grooves at the extremities: posterior side very short, obtusely angulated dorsally, ventrally rounded; anterior, elongated, with two strong ribs from the umbo to the ventral margin, the anterior ribs strong and wrinkled; anterior marginal teeth alternating; ligamental area narrow, posteriorly broader.  $\frac{2}{3} \dots 1\frac{1}{2}$ .—*W. Colombia*.

A. VELATA.—BYSSOARCA V. *Sow. Z. P.* 1833. Ovate, rather compressed, with radiating ribs, decussated; dorsal edge biangulated; epidermis brown, with acuminate scales: ligamental area narrow.  $1 \dots 3\frac{1}{2}$ .—*Pacific*.

A. OBLIQUATA. *Gray. in W. S. t. 2. f. 4.* Ovate-subcuneiform, extremely short, attenuated and almost pointed posteriorly, rounded and expanded anteriorly, beaks close: white under a fuscous scaly epidermis, with (apparently simple) close radiating rib-like striæ, hinge margin slightly curving: an internal livid stain on each side.  $1 \dots 1\frac{1}{2}$ .

A. MUTABILIS.—BYSSOARCA M. *Sow. Z. P.* 1833. Oblong, pale brown, with decussating striæ: posterior side usually shorter sometimes nearly equal, angulated dorsally, rounded ventrally; anterior side rather long, angulated dorsally, a keel from the umbo to the lower and anterior margin: anterior area, with larger decussated sulci.  $1\frac{2}{3} \dots 1\frac{2}{3}$ .—*W. Colombia*.

A. LITHODOMUS.—BYSSOARCA L. *Sow. Z. P.* 1833. Elongated, wedge-shaped, subcylindrical, with elegant decussating striæ, posterior side the shorter and obliquely truncated; anterior elongated, sloping, rounded acuminate; ligamental area deep, the ligament posteriorly ending in an obtuse angle: epidermis denticulated, subfoliaceous at the posterior angle, conspicuous: teeth very numerous, very small and much interrupted.  $1 \dots 3\frac{1}{2}$ .

A. GLACIALIS. *Gray. in Parry. Sup.* Thin, oval-elliptical, rounded at the sides, regularly finely and transversely striated; epidermis silky: umbones towards the joint incurved and nearly close, the intermediate space lanceolate, ventricose; margin even, thin: teeth very small and indistinct in the middle.  $\frac{1}{2} \dots \frac{1}{2}$ .—*North Pole*.

\* \* Inner margin crenulated.

A. HELBINGII. *Lam.* 24.—A. CANDIDA. *Gmel.* 3311.—*D.* p. 228.—*Ch.* f. 542.—*W.* t. 9. f. 7. Transverse, anteriorly produced, posteriorly truncated, white under a scaly epidermis, with longitudinal crenulated grooves, which are in pairs at the anterior end: beaks approximated, margin gaping and somewhat crenulated. 2.—*Guinea and Brazil.*—"Probably a variety of *Ovata.*" *DESH.*

A. SCAPHA. *Lam.* 25.—*Ch.* f. 548. Transversely oblong, ventricose, thin, white with the umbones reddish and oblique; with from twenty-nine to thirty-four ribs, which are divided into two portions by a groove, (which is narrow but almost as deep as the spaces between the ribs,) and are narrow and prominent particularly on the anterior side. 5.—*India?*—*W. Indies?*

A. ANTIQUATA. *Lin.* 1141.—*D.* p. 232.—*Lam.* 26.—*W.* t. 9. f. 17.—*Ch.* f. 548.—*E.* t. 306. f. 2.—*Gual.* t. 87. c. Transversely ovate, obliquely heart-shaped, thick, white, ventricose, with numerous flattened ribs, which are transversely striated, unarmed and the posterior ones bifid: anterior side slightly angulated: area between the beaks not grooved. 2. 3.—*Mauritius, Madagascar, &c.*<sup>1</sup>

A. RHOMBEA. *Born.*—*Gmel.* 3314.—*D.* 233.—*Lam.* 27.—*Ch.* f. 553.—*E.* t. 307. f. 3.—*W.* t. 9. f. 19. Heart-shaped, nearly as long as broad, gibbous, white covered by a brown epidermis, with about twenty-six longitudinal transversely striated ribs, and their interstices nearly smooth: beaks incurved and distant, the area between them rhomboidal. 1½. 1½.—*W. Indies.*—*E. Indies?*

A. GRANOSA. *Lin.* 1142.—*D.* p. 233.—*Lam.* 28.—*W.* t. 9. f. 18.—*List.* t. 241. f. 78.—*Ch.* f. 557.—*Knorr.* 3. t. 4. f. 2.—*Sow. G.*—*Reeve.* t. 82. f. 3. Heart-shaped, nearly as long as broad, very ventricose, thick, almost equilateral, with upwards of twenty rounded ribs, armed with orbicular, somewhat spinous nodules, white within, and without, tinged slightly with brown at the beaks, which are incurved and rather distant with the area between them covered with a dark brown ligament, marked with rhomboidal grooves. 1½. 2.—*Indian Ocean.*

A. AURICULATA. *Lam.* 29.—*Del.* t. 11. f. 12.—*Savig. Egyp.* t. 10. f. 8. Heart-shaped, ventricose, white, under a hairy epidermis, with about twenty-eight strong radiating crenulated

<sup>1</sup> *Deshayes separates as confounded with this, a species which I propose to name in honour of that laborious savant, A. DESHAYESII.*—*Gual.* t. 87. B.—*E.* t. 306. f. 1. Oblong, rather thin, with rounded ribs and the area between the beaks marked with losenge-shaped grooves.



ribs, which are much narrower than the interstices, umbones oblique; posteriorly, obliquely rounded ventrally, rectangular dorsally; emarginated anteriorly: ligamental area narrow and elongated anteriorly.  $1\frac{3}{4}$ .—*Indian Ocean*.—*Much resembles Rhombea*.

A. INEQUIVALVIS. *Brug. dict. no. 16*.—A. INDICA. *var. D. p. 235*.—*Ch. f. 552*.—*E. t. 305. f. 3. a.*—A. IMBRICATA. *W. t. 9. f. 4*. Obliquely heart-shaped, ventricose, inequivalve, one valve projecting beyond the other anteriorly, and at the rounded ventral margin; rather broader than long, anterior edge nearly direct, white, thin, with many nearly smooth and flattened ribs, beaks approximate.  $2\frac{3}{4}$ .—*Indian Ocean*.

A. INDICA. *Gmel. 3312*.—*D. p. 234*.—*Lam. 31*.—*W. t. 9. f. 21*.—*List. t. 232. f. 66*,—*Ch. f. 543*. Transversely elongated ovate, inequivalve, thin, and whitish; with many ribs which are grooved in the middle, the beaks approximated and no area between them.  $1.1\frac{1}{4}$ .—*Sumatra*.

A. SENILIS. *Lin. 1142*.—*D. p. 234*.—*Lam. 32*.—*Ch. f. 554. 5, 6*.—*E. t. 308. f. 1*.—*W. t. 9. f. 20*. Obliquely heart-shaped, nearly as long as broad, tumid, thick, ponderous, white covered with a greenish brown epidermis, with about twelve broad very large unarmed ribs, of which seven or eight are much larger than the rest; umbones large, obliquely recurved, and distant: within white and polished.—*Diam. 2\frac{1}{2}*.—*Africa*.

A. BRASILIANA. *Lam. 33*.—*W. S. t. 2. f. 7*.—A. INEQUIVALVIS. *Sow. Gen. f. 3*. Inequivalve, heart-shaped, tumid, anteriorly subangulated, reddish white, with many flattened ribs which at the posterior side are crenulated, at the anterior unarmed: ligamental area pectinated.  $1\frac{3}{4}$ .—*Rio Janeiro*.

A. CORBICULA. *Gmel. 3310*.—A. CORBULA. *D. p. 235*.—*Lam. 34*.—*Ch. f. 559*.—*E. t. 309. f. 5*. Ovate, subtrapeziform, the hinge margin nearly straight, and the rest of the margin rounded, white with radiating transversely striated ribs: beaks obtuse and approximated, the intervening area very narrow.  $\frac{3}{4}$ .— $1$ . *Cape of Good Hope*.

A. SQUAMOSA. *Lam. 35*.—*An. Gray. in W. S. t. 2. f. 12?*<sup>1</sup> Ovate wedge-shaped, with cancellated striæ, beaks tumid and approximated, anterior slope oblique, and imbricated with scales.  $\frac{3}{4}$ .—*New Holland*.<sup>2</sup>

<sup>1</sup> The shell from which this figure is taken, is again named by Mr. Gray in the British Museum A. Reticulata var. Are we to understand that these are synonymous?

<sup>2</sup> Of this species, A. DOMINGENSIS, *Lam. 16. is at most a variety (fide Deshayes)*. I add however the characters.—A. DOMINGENSIS. *Lam. 16*.—*List. t. 233. f. 67*. Transversely oblong, with decussated striæ, reddish brown clouded with pale

**A. CAYENNENSIS.** *Lam.* 36. Obliquely oval, pectiniform, reddish yellow, with at least thirty radiating unarmed ribs, which are angular but flattened on the surface; anterior side broad and obliquely rounded, furrows visible within.—*Variety.* Smaller, obliquely heart-shaped, and the ribs slightly crenated.  $1\frac{1}{2}$ .—*Guiana.*

**A. BISULCATA.** *Lam.* 37. Transversely oblong, anteriorly angulated, longitudinally grooved, the ribs transversely striated and alternately smaller, yellowish or reddish white: inner margin obscurely crenulated.—*Variety.* With crenulated ribs.  $1\frac{1}{2}$ .—*Guiana & Brazil.*

**A. INCONGRUA.** *Say. Jour. A. N. S. Phil.* 2. p. 268. Somewhat rhomboidal with from twenty-six to twenty-eight close set ribs crossed by elevated obtuse equal and equidistant lines except on ten ribs of the disc of the left valve; apices opposite the middle of the hinge, distant with a narrow lanceolate area between them: dorsal edge angulated at each end, posterior edge rounded, ventral edge rounded, that of the right valve extending a little beyond the regular curve in the middle: anterior margin cordate, anterior edge nearly straight.  $2 \dots 2\frac{1}{2}$ .—*U. States.* Very like *Rhombea*, but the figure in the *Encyclopedie* differs.

**A. PONDEROSA.** *Say. Jour. A. N. S. Phil.* 2. p. 267. Somewhat oblique, very thick and ponderous, with from twenty-five to twenty-eight ribs, each marked by an impressed line and as wide as the interstices; umbones, very prominent, apices remote and opposite the middle of the hinge; ligamental area with longitudinal lines as prominent as their corresponding teeth; anterior margin cordate, flattened, distinguished from the disc by an abrupt angular ridge, posterior edge rounded very short, ventral nearly straight or incurved in the middle.  $2\frac{1}{2} \dots 2\frac{3}{4}$ .—*U. States.*

**A. LABIOSA.** *Sow. Z. P.* 1833. Inequivalve, short, of a rounded square shape; posteriorly shorter, angulated dorsally and rounded ventrally, anteriorly subangulated; whitish under a thin brown epidermis, with radiating ribs which (especially on the larger valve) are posteriorly granular, anteriorly smooth: ligamental area narrow.  $1\frac{3}{8} \dots 1\frac{9}{16}$ .—*Peru.*

**A. PEXATA.** *Say. Jour. A. N. S. Phil.* 2. p. 268.—*Gould. Mas.* p. 95. f. 60.—**A. AMERICANA.** *W. S. t. 2. f. 1.* Transversely ovate subquadrate, very inequilateral, heavy, with from thirty-two to thirty-six close set ribs, which are broader than their interstices; a shaggy brown epidermis; beaks prominent and very oblique, apices approximated: posteriorly obtuse and (save when young) destitute of a dorsal angle; anteriorly obtuse, with an angle

fulvous; anterior side produced, subacute and granular; beaks approximated, margin indistinctly crenated.  $1\frac{1}{2}$ .—*St. Domingo.*

at the termination of the hinge, ventral edge little rounded.  $1\frac{1}{10} \dots 2$ .—*U. States*.

A. CONCINNA. *Sow. Z. P.* 1839. Oblong, inequivalve, white, with radiating ribs which posteriorly are wrinkled, the interstices decussated; posterior side the shorter and angulated dorsally, anterior rather produced, the angle inconspicuous: ligamental area narrow and posteriorly crenulated on each side: ligament anterior: an olive epidermis which is spinous at the grooves on both extremities.  $\frac{1}{2} \dots 1\frac{3}{10}$ .—*Central America*.

A. OBESA. *Sow. Z. P.* 1833. Ovate, posteriorly shorter, anteriorly subangulated, ventricose, white under a brown scaly epidermis, with crowded smooth flattened radiating ribs: hinge area shortish and narrow.  $1\frac{1}{10} \dots 1\frac{1}{2}$ .—*W. Colombia*.

A. LABIATA. *Sow. Z. P.* 1833. Inequivalve, short, of a rounded square shape, posteriorly shorter and rounded, anteriorly subangulated; white under a brown epidermis which is setose on the anterior edge of the flattened radiating ribs; these are (particularly on the larger valve) posteriorly wrinkled, anteriorly smooth and broader: ligamental area broad, subrhomboid.  $1\frac{1}{10} \dots 1\frac{1}{2}$ .—*Real Llegos*.

A. NUX. *Sow. Z. P.* 1833. Oblique, turgid, inequivalve, with radiating ribs which armed with granules in one valve are only so posteriorly in the other; umbones distant, prominent: epidermis brown, horny, thin, and the anterior side of the ribs bristly.  $\frac{1}{2} \dots 1\frac{1}{10}$ .—*Xipixapi*.

A. BIANGULATA. *Sow. Z. P.* 1833. Oblong, posteriorly shorter and broader, anteriorly subacuminated, lateral margin sloping; ventricose, with radiating ribs, white under a bristly brown epidermis: dorsal margin posteriorly acute, anteriorly obtusely angulated: ligamental area elongated, posteriorly broader, flat.  $1\frac{1}{10} \dots 2$ .—*W. Colombia*.

A. FORMOSA. *Sow. Z. P.* 1833. Oblong, subcylindrical, whitish, with radiating ribs which are numerous flattened and posteriorly double; each hinge margin angulated; posterior side the shorter; hinge area broadish and elongated, epidermis in long pointed scales in the interstices, in bristly hairs anteriorly.  $2\frac{1}{10} \dots 4\frac{1}{2}$ .—*C. America*.

A. QUADRILATERA. *Sow. Z. P.* 1833. Quadrangular, with the sides angulated dorsally, the posterior dorsally rounded, the anterior obtusely angulated ventrally: ventricose, whitish under an olive epidermis, with radiating rounded ribs: ligamental area narrow.  $\frac{1}{2} \dots 1$ .—*Real Llegos*.

A. GRANDIS. *Sow. & Brod. Z. J.* Obliquely subquadrangular, thick, white, with radiating rounded ribs, which are only crenulated at the posterior end, elsewhere unarmed; epidermis smooth coriaceous.  $3\frac{1}{2} \dots 4\frac{1}{10}$ .—*Like Senilis but longer and with more ribs*.

A. EMARGINATA. *Sow. Z. P.* 1833. Oblong, subcylindrical, inequivalve, white, with radiating ribs : posteriorly short with the ribs narrower, and wrinkled ; anteriorly elongated, with the ribs broader and smooth : anterior dorsal margin emarginated, ligamental area narrow ; epidermis brown and bristly in the grooves.  $\frac{3}{4} \dots 1\frac{1}{2}$ .—*C. America.*

A. TUBERCULOSA. *Sow. Z. P.* 1833. Oval, turgid, oblique, subauriculated, with numerous radiating ribs armed especially posteriorly with scattered tubercles : umbones close, ligamental area narrow : anterior side the longer.  $2\frac{1}{10} \dots 2\frac{1}{2}$ .—*S. America.*

A. CARDIFORMIS. *Sow. Z. P.* 1833. Inequivalve, suboval, rounded posteriorly, on the anterior side ventrally angulated : ventricose, whitish with radiating ribs which are smooth except on the posterior side where they are wrinkled, the interstices on the larger valve very narrow : lateral edge sloping : ligamental area small and subequal.  $1\frac{1}{2} \dots 2$ .—*California.*—*Aspect of the common Cockle.*

A. MULTICOSTATA. *Sow. Z. P.* 1833. Ovate-rhombic, posterior side angulated dorsally, and rounded ventrally ; anterior side angulated dorsally, lateral edge sloping ; a rounded keel running from the umbo to the base of the anterior margin : white under a brown almost satin-like epidermis, with numerous radiating minutely decussated rounded ribs, which posteriorly are subgranular : the grooves rounded, the ligamental area broadish.  $2\frac{1}{2} \dots 2\frac{3}{4}$ .—*C. America.*

A. NODOSA. *Wood. S. t. 2. f. 8.* Equilateral, tumid, obliquely subrhombic, white ; hinge margin angulated at both ends, very obliquely so anteriorly ; rayed with about twenty-six flat ribs which angulated at their sides are rather broader than the simple interstices, and are decussated, except on the anterior slope, with transverse straight raised lines : ventral edge arcuated : ligamental area rhombic broad and short. 2.—*S. America ?*

A. TRANSVERSA. *Say. Journ. A. N. S. Phil. 2. p. 269.*—*Gould. Mas. p. 97.* Oblong, rhomboidal, with from thirty-two to thirty-five ribs as wide as their interstices, apices separated by a long narrow area (on which one or two angulated lines diverge from the apex) and situated at one-third the distance from the posterior end of the hinge margin which is angulated at each end ; of the anterior edge the superior half rectilinear, posterior edge rounded, ventral edge nearly straight.  $\frac{1}{2} \dots 1\frac{1}{2}$ .—*U. States.*<sup>1</sup>

<sup>1</sup> See also the COMPLANATA of *Ch. f. 544, 5.* (*D. p. 228.*—*W. t. 9. f. 8.*) and his *Plicata f. 2008* (*D. p. 227. and f.*—*W. t. 9. f. 6.*)

## PECTUNCULUS.

Orbicular, doubly convex, equivalve, subequilateral, and close; hinge arcuated, teeth numerous, oblique, serrated, alternately inserted into the opposite valves, middle ones obsolete; ligament external.

\* Surface not ribbed.

P. PILOSUS.\* *Lam.* 2.—*Philip.* p. 61.—ARCA P. *Lin.*—*W.* t. 9. f. 37.—P. GLYCIMERIS. UNDATUS & PILOSUS. *Turton. Biv.* t. 12. f. 1, 2, 3, 4.—P. MARMORATUS. *Lam.* 4.—ARCA P. *D.* p. 242.—*W.* t. 9. f. 36.—ARCA M. *Gmel.* 3314.—*Ch.* f. 560. & 563.—*List.* t. 247. f. 82.—*Knorr.* 6. t. 14. f. 4.—*Gualt.* t. 72. *G.*—*E.* t. 310. f. 3. Orbicular-ovate, becoming inequilateral by age, white with angular red streaks arranged either longitudinally or transversely (sometimes flesh colour with white spots and angular red ones) minutely decussated, the apices obliquely incurved, approximate: inside white or whitish: epidermis velvety. 1½.—*Atlantic and Mediterranean.*<sup>1</sup>

P. SICULUS. *Reeve. Ic.* f. 41.—P. GLYCIMERIS. *Lam.* 1.—*Philip.* p. 60.—P. PILOSUS. *Sow. G.*—*Reeve. Sys.* t. 83. f. 1.—*Ch.* f. 564.—*Pol.* t. 25. f. 17, 8?—*List.* t. 247. f. 82? Orbicular, rather broader than long, all but equilateral, rather depressed (except when aged) uniform, brownish red (usually with darker zones and the beaks often tipped with white) radiated by minute striæ and delicate pale rather distant lines having the appearance of obsolete sulci: epidermis silky, brown. 3.—*Mediterranean.*

P. UNDULATUS. *Lam.* 3.—*Del.* t. 12. f. 1.—ARCA UNDATA? *Lin.*—*Brug. Dic.* p. 114? Ovate orbicular, tumid, inequilateral, anteriorly angulated and the longitudinal furrows very apparent: white with small waved rufous spots disposed in transverse rows: beaks with a straight inclination to each other. 1½.—*America?*

P. SCRIPTUS. *Lam.* 5.—*Reeve. Ic.* f. 6 ??—ARCA SCRIPTA. *D.* p. 243.—*Born.* t. 6. f. 1. a.—*List.* t. 246. f. 80.—*E.* t. 311. f. 8.—*W.* t. 9. f. 39. Orbicular, rather depressed, with minute decussated striæ, whitish with angular fulvous lines; beaks slightly curved anteriorly: within white stained with yellow at the anterior end, crenations of the margin about fifty and only visible in the centre. 1½.—*St. Domingo.*

<sup>1</sup> From an examination of Linnæus's own specimen, I can safely assert that M. Deshayes is in error in considering this shell to be the *Glycimeris* of Linnæus. The specimens of the latter are the *Violascens* of Lamarck.

*P. PENNACEUS*. *Lam.* 6.—*Reeve Ic. f.* 24. (*good*)—*Knorr.* 5. *t.* 30. *f.* 3.—*ARCA DECUSSATA*. *Lin.* 1142?—*D. p.* 239?—*W. t.* 9. *f.* 31. Orbicular, swollen, decussately striated, longitudinal striæ the stronger, whitish irregularly painted with large and small dark brown spots: umbones bent inwards to the posterior end of the ligament: lunule heart-shaped, with transverse red rays. 2.—*West Indies*.

*P. RUBENS*. *Lam.* 7.—*E. t.* 310. *f.* 3.—*Reeve. Ic. f.* 23? Orbicular, convex, decussated by very delicate striæ, pale reddish with many zones and numerous small darker spots: ligamental area narrow: one large internal brown stain. 2½.—*M. Deshayes* states that the figure quoted by Lamarck represents *Glycimeris*.

*P. ANGULATUS*. *Lam.* 8.—*Reeve. Ic. f.* 30.—*ARCA A. Gmel.*—*D. p.* 240?—*W. t.* 9. *f.* 34.—*Ch. f.* 567.—*List. t.* 245. *f.* 76?—*Brug. no.* 28. Subcordate, ventricose anteriorly angulated, longitudinally sulcated and striated rich chesnut (sometimes with white splotches): ligamental area rather short. 1½.—*America*.

*P. STELLATUS*. *Lam.* 9.—*Reeve. Ic. f.* 5.—*ARCA S. Brug.* no. 32.—*D. p.* 242.—*Bon. t.* 2. *f.* 62. Orbicular-heart-shaped, yellowish violet, umbones peculiarly starred with white, ornamented with very faint rather remote longitudinal striæ. 2.—*Portugal*.

*P. PALLENS*. *Lam.* 10.—*ARCA P. Lin.* 1142.—*D. p.* 246.—*W. t.* 9. *f.* 33. Lenticular, inequilateral, with decussated striæ, of which the longitudinal are the more prominent, white clouded or spotted with very pale violet; beaks approximated and not inclining. 1½.—*Indian Ocean*.—*Variety*. With more colour, beaks not so approximated and rather oblique.—*Gulf of Tarentum*. "Probably only a young *Violascens*." *DESH.*

*P. GLYCIMERIS*. (*not Lam.*) *ARCA G.* of Linnæus (fide his own specimens.) *P. VIOLASCENS*. *Lam.* 11.—*Payr. t.* 2. *f.* 1.—*Reeve. Ic. f.* 9.—*Del. t.* 12. *f.* 2. Heart-shaped orbicular oblique (becoming tumid by age,) greyish or reddish violet with paler radiating lines having the appearance of sulci or obsolete ribs, and concentrically striated on the umbones: beaks directly incurved and situated nearly in the centre of the ligamental area: anterior side elongated and angulated by age: within, more or less stained with brown anteriorly. 1½..2.—*Mediterranean*.—*Young. P. NUMMARIUS*. *Lam.* 14.—*ARCA N. Lin. (certo.)*—*D. p.* 243. Densely variegated with liver colour on a white ground, with prominent concentric striæ.<sup>1</sup>

<sup>1</sup> Mr. Reeve assures me (having examined Lamarck's own specimen,) that the *Zonalis* is but a variety of this species.

**P. STRIATULARIS.** *Lam.* 13.—*Reeve. Ic. f.* 27? Ovate heart-shaped, transverse, reddish white under a brown silky epidermis, with very numerous fine longitudinal striæ; beaks rather oblique; within white with a large stain of reddish brown.  $1\frac{1}{2}$ .—*New Holland.*

**P. INTERMEDIUS.** *Brod. Z. P.* 1832.—*Reeve. Ic. f.* 1. Suborbicular, subglabrous, subdepressed, whitish, with pale chesnut radiating zones near the umbo, with rather distant radiating decussated striæ: inside white, the margins crenated: epidermis somewhat velvety.  $1\frac{1}{2}$ ..  $1\frac{1}{2}$ .—*Iquiqui.*

**P. OVATUS.** *Brod. Z. P.* 1832.—*Reeve. Ic. f.* 2. Exactly oval, longer than broad, convex, glabrous with very minute transverse lines, whitish, the umbones pale chesnut: inside white, the margin crenulated; the epidermis somewhat downy.  $1\frac{1}{2}$ ..  $1\frac{1}{2}$ .—*Pacific.* *Closely resembling the last, but much more elongated.*

**P. LINEATUS.** *Reeve. Z. P.* 1843.—*Reeve. Ic. f.* 25. Orbicular convex, slightly auriculated, decussately striated, longitudinal striæ the stronger, whitish clouded anteriorly and about the middle with chesnut spots and vividly painted posteriorly with dark longitudinal lines: umbones central.  $1\frac{1}{2}$ .—*West Indies.* *Closely allied to Pennaceus.*

**P. MACULATUS.** *Brod. Z. P.* 1832.—*Reeve. Ic. f.* 4. Orbicular, slightly eared, subequilateral, convex, whitish spotted with chesnut, somewhat decussated with thick set radiating striæ: interior white, margin crenated: epidermis brown and downy.  $2\frac{1}{2}$ ..  $2\frac{1}{2}$ .—*Central America.*

**P. GIGANTEUS.** *Reeve. Ic. f.* 3. Orbicular, very convex, (depressed when young) solid, large, with longitudinal close and regular striæ and almost obsolete grooves; white stained with chesnut towards the ventral edge, middle and umbonal portion profusely and vividly painted with waved reddish brown spots touching each other for the most part on both sides: interior white, margins of the adult of bright shining chesnut, crenated: epidermis thick and hairy. 4.—*California.* *Allied to the Undatus of Linnæus.*

**P. MULTISTRIATUS.** *Desh.—Reeve. Ic. f.* 42.—*ARCA M. D. p.* 224.—**A. STRIATA.** *Gmel.* 3308.—*W. t.* 9. *f.* 41.—*Ch. f.* 537.—*E. t.* 311. *f.* 7? Triangularly orbicular equivalve, subequilateral, compressed, with numerous fine longitudinal striæ rufous; beaks incurved and the area between them narrow; within brown, the margin flattened and quite entire. 1.—*Red Sea.* *Extremely delicate transverse striæ at intervals.*

\* \* *With prominent radiating longitudinal ribs, either with or without transverse striæ.*

**P. CASTANEUS.** *Lam.* 15.—*W. t.* 9.—*Reeve. Ic. f.* 28.

**ARCA EQUILATERA.** *Gmel.*—*D.* p. 240.—*Ch.* f. 562.—*E. t.* 11. f. 2.—*W. t.* 9. f. 32. Orbicular, subequilateral, chesnut, mottled with white, with numerous longitudinally striated ribs, which become obsolete towards the beaks which are not inclined; within white.  $1\frac{1}{2}$ .—*W. Indies.*

**P. PECTINIFORMIS.** *Lam.* 16.—*Reeve. Ic.* f. 11.—**ARCA PECTUNCULUS.** *Lin.* 1142.—*D.* p. 238.—*W. t.* 9. f. 29.—*Ch.* f. 568.—*E. t.* 311. f. 5. Suborbicular, thick, moderately convex, somewhat eared, whitish more or less tinged with flesh colour, and marked with brown wavy riband-like stripes, or spots, the ribs and interstices both broad and the surface roughened by fine raised transverse wrinkles; beaks small and not inclining: within white stained with chesnut at the hinge and near the beaks, the margin plaited.  $1\frac{1}{2}$ .—*Asiatic and American Seas.* A slight incurvation of the anterior margin.

**P. PECTINATUS.** *Lam.* 17.—*Reeve. Ic.* f. 28.—**ARCA P.** *Gmel.* 3313.—*D.* p. 239.—*Ch.* f. 570, 1.—*E. t.* 311. f. 6.—*W. t.* 9. f. 30. Lenticular, rather depressed, whitish with wavy brown transverse markings or small spots, and numerous smooth rather flattened ribs and narrow interstices: white within and the margin crenated.  $\frac{3}{4}$ .—*W. Indies.*—*Variety from Brazil.* White with rufous spots.

**P. RADIANUS.** *Lam.* 18. Suborbicular, transverse, inequilateral, rufous the umbones very white, with very numerous fine, longitudinally striated ribs.—*Variety.* With the ribs broader.  $1\frac{1}{2}$ .—*New Holland.*

**P. VITREUS.** *Lam.* 19. Orbicular depressed, somewhat eared, thin, pellucid, with transversely striated almost granular longitudinal ribs, white with a few orange dots; beaks small and acute: the hinge formed of two straight lines which almost form a right angle at the beaks and are each furnished with from twelve to fifteen oblique teeth.  $1\frac{1}{2}$ .—*South Seas.*

**P. MULTICOSTATUS.** *Sow. Z. P.* 1832.—*Reeve. Ic.* f. 26. Suborbicular, white mottled with chesnut, rust-colour, and ashy-grey; with numerous radiating small rounded ribs which are transversely striated: umbones posteriorly inflected.  $1\frac{1}{2}$ .—*South America.*

**P. PARCIPICUS.** *Reeve. Z. P.* 1843.—*Reeve. Ic.* f. 14. Rather obliquely heart-shaped, radiately ribbed; ribs flat, often grooved up the middle, interstices deep; white sparingly variegated with yellowish chesnut undulated zones and patches: interior white with a purple posterior stain. 1.—“The ribs are peculiarly firm and squarely grooved out.”

**P. AURIFLUUS.** *Reeve. Z. P.* 1843.—*Reeve. Ic.* f. 17. Orbicularly heart-shaped, inequilateral radiately ribbed, ribs broad



and obsoletely grooved down the middle; white richly painted with transversely flowing patches of bright orange, which on the posterior half of the shell are edged with blackish brown. 2.—*Philippines*.

*P. TESSELLATUS*. *Sow. Z. P.* 1832.—*Reeve. Ic. f.* 29. Orbicular, triangularly attenuated towards the umbones, equilateral, solid, tumid, white tessellated and variegated with brownish or purplish lake; the radiating ribs depressed and rounded, smooth, equal in size to the interstices, about twenty-five in number: beaks inflexed ligamental area small.  $\frac{3}{4}$ .—*W. Colombia*.

*P. MORUM*. *Reeve. Z. P.* 1843.—*Reeve. Ic. f.* 40. Somewhat pecten-shaped, pale pink sparingly and irregularly painted with long ruddy spots: radiately ribbed, ribs smooth: umbones nearly central.  $\frac{3}{4}$ .—*Madagascar? Allied to the last*.

*P. OCULATUS*. *Reeve. Z. P.* 1843.—*Reeve. Ic. f.* 38. Somewhat pecten-shaped, radiately ribbed, brown sparingly and irregularly ornamented with white spots or spaces bordered with dark brown: umbones central but rather oblique.  $\frac{3}{4}$ .—*West Indies*.

*P. NODOSUS*. *Reeve. Z. P.* 1843.—*Reeve. Ic. f.* 22. Suborbicular, longer than broad, yellow variegated with dusky brown or chesnut, radiately ribbed, ribs distant and knobbed, the knobs nearly obsolete posteriorly: interior whitish, brown posteriorly. 1..1 $\frac{1}{2}$ .—*Ceylon*.

*P. PALLIUM*. *Reeve. Z. P.* 1843.—*Reeve. Ic. f.* 21. Obliquely ovate, subtriangular, the shell being much contracted towards the umbones: rich brownish yellow vividly painted with scattered square dark spots: radiately ribbed, ribs nearly obsolete towards the margin.  $\frac{3}{4}$ ..1 $\frac{1}{2}$ .—*Zanzibar*.

*P. BICOLOR*. *Reeve. Z. P.* 1843.—*Reeve. Ic. f.* 20.—*Beechey. Zool. t.* 42. *f.* 3. Suborbicular, inequilateral, broader than long, attenuated towards the umbones longitudinally grooved, grooves numerous and very narrow, whitish clouded with violet and irregularly painted with triangular rusty reddish spots.  $\frac{3}{4}$ ..1.—*California*.

*P. STRIGILATUS*. *Sow. Z. P.* 1832.—*Reeve. Ic. f.* 31. Suborbicular, triangularly attenuated towards the umbones, ventricose, pinkish variegated and streaked with rust-colour; the radiating ribs rather distant and rounded, interstices smooth. 1..1.—*South America*.

*P. INEQUALIS*. *Sow. Z. P.* 1832.—(not *Beechey. Zool.*)—*Reeve. Ic. f.* 16.—*P. PECTINIFORMIS*. *W. S. t.* 2. *f.* 11. Subcordate, oblique, inequilateral, longer than broad, gibbous, with obtuse radiating striæ white or lilac-grey with four or five broad, rusty or blackish transverse bands, the striæ disposed in rib-like clusters and their interstices striated. 1 $\frac{1}{2}$ ..1 $\frac{1}{2}$ .—*Panama*. ~~The~~

ligament is short and a very small part is posterior to the umbones.<sup>1</sup>

### NUCULA.

*Transverse, oval-trigonal, or oblong, equivalve, and equilateral; no ligamental area; teeth of the hinge linear, numerous, and pectinated, interrupted in the middle by an oblique produced hollow; beaks contiguous, posteriorly inflected; ligament marginal and partly internal, inserted in the cardinal hollow.*

#### \* Lanceolate.

**N. LANCEOLATA.** *Lam.* 1.—*Sow. G. f.* 1.—*Conch. Il. Nacula. f.* 1.—*Reeve. t.* 84. *f.* 1. Extremely long, thin, fragile, hyaline, anterior side lanceolate and rather obtuse, the posterior equally long but obtuse and broader, ventral margin entire.—*Xipixapi.*

**N. ELONGATA.** *Sow. Z. P.* 1832.—*Con. Il. f.* 2.—*Reeve. t.* 84. *f.* 2. Transversely elongated, lanceolate, thin white with a fuscous epidermis towards the ventral margin: subequilateral but rather shorter posteriorly: dorsal margin rather straight, anteriorly subreflected: anterior row of teeth divaricate.  $\frac{7}{10} \dots 2 \frac{7}{10}$ .—*West Colombia.*

**N. TELLINOIDES.** *Sow. G. f.* 2.—*ARCA T. W. S. t.* 2. *f.* 3. Lanceolate, transversely elongated, subequilateral, anteriorly subangulated, posteriorly rounded, sides nearly equal in depth; white, thin, the lines of growth decussated by very fine oblique striæ, dorsal edges convex.  $\frac{3}{4} \dots 2$ .—*Cumana.*

**N. PATAGONICA.** *D'Orbigny.* Lanceolate, very narrow, depressed, rather fragile, equilateral, rounded posteriorly, extremely attenuated anteriorly, with very fine concentric striæ; ventral edge entire, little arcuated in the centre, and sloping, obliquely at each end; dorsal edges little sloping the anterior one incurved and excavated above; teeth very numerous, cardinal pit broadly triangular.  $\frac{1}{2} \dots 1 \frac{1}{3}$ .—*Patagonia.*

**N. CRENIFERA.** *Sow. Z. P.* 1832.—*Reeve. t.* 84. *f.* 3.—*Con. Il. f.* 3. Transversely elongated, lanceolate, smooth, with

<sup>1</sup> The *P. ASSIMILIS* of *Sow. in Z. P.* 1832. is most closely allied (if indeed distinct from) this species.

See too *Spurcus*, *Cancellatus* and *Pertusus* of *Reeve* in the *Zoological Proceedings*, which should be compared with the young of the other species. His *Flammæus* though certainly distinct is only described from worn specimens. So too is the *P. Longior* of *Sowerby*.

*the specimen before me three or four granular lines radiate down the posterior slope.*<sup>1</sup>

*N. RECURVA.* *Conr. Jour. A. N. S. Phil.* 6. t. 11. f. 21. Oblong, concentrically striated towards the beaks, and obliquely so towards the ventral edge: anteriorly rostrated and recurved, posteriorly rounded, beaks subcentral.  $\frac{1}{2}$ .—*West Indies*.

*N. SAPOTILLA.* *Gould. Mas.* p. 100. f. 61. Elongated ovate, translucent, subequilateral, posteriorly rounded, anteriorly narrowed and compressed; the anterior dorsal edge straight and rendered sharp by the compression of a very narrow portion of the margin; subrostrated, tumid at the beaks with only a slight flexure under the anterior tips; smooth, polished, pale yellowish green: teeth about sixteen on each side.  $\frac{1}{3}$ .. $\frac{1}{10}$ .—*North America*.<sup>2</sup>

*N. NAVICULARIS.* *Couthouy. Bost. Journ. N. H.* 2. t. 4. f. 4.—*Gould. Mas.* p. 103. Small, smooth, fragile, subequilateral, greenish yellow, posteriorly rounded, anteriorly feebly beaked; slightly truncated, ventral margin very convex; beaks prominent; inside white and glossy, the hinge with from sixteen to eighteen teeth.  $\frac{1}{4}$ .—*North America*.

*N. NASUTA.* *Sow. in Conch. Il.* f. 12.—*Reeve. t.* 85. f. 12. Oblong, white, very finely striated transversely; posterior side rather shorter than the anterior, rounded: anterior acuminate, slightly turned upwards, with an elongated transversely striated dorsal area.  $\frac{2}{5}$ .. $\frac{1}{3}$ .—*East Indies*.

*N. FABULA.* *Sow. Conch. Il.* f. 13.—*Reeve. t.* 85. f. 13. Ovate, white, obliquely striated, nearly equilateral, posterior side rounded, anterior acuminate, slightly turned upwards, with two ridges passing from the umbones to the acuminate extremity, the upper of which is crenated, forming an anterior dorsal area.  $\frac{1}{4}$ .. $\frac{2}{3}$ .

*N. STRIATA.* *Sow. Conch. Il.* f. 16.—*Reeve. t.* 85. f. 16. Ovate, white concentrically striated, nearly equilateral, the dorsal slopes nearly equal; posterior side slightly acuminate, rounded; anterior side acuminate, with an indistinct dorsal area.  $\frac{2}{3}$ .. $\frac{1}{2}$ .—*China*.

*N. MAURITIANA.* *Sow. Conch. Ill.* f. 17.—*Reeve. t.* 85. f. 17. Ovate, white, concentrically grooved, nearly equilateral, posteriorly rounded, anteriorly acuminate: dorsal slope nearly equal on both sides.  $\frac{1}{4}$ .. $\frac{2}{3}$ .—*Mauritius*.

*N. LIMATULA.* *Say. Am. Conch. t.* 12.—*Gould. Mas.* p. 98.

<sup>1</sup> Add likewise the *N. GLACIALIS.* *Gray. in W. S. t.* 2. f. 6.

<sup>2</sup> See too the *MYALIS* of Couthouy in *Boston. J. of N. H.* 2. t. 3. f. 7.—*Gould. p.* 99.

*f.* 62. Oblong, very smooth and shining, subequilateral, cuticle light green occasionally with darker zones, and two or three lighter radiations: anterior dorsal edge rectilinear nearly to the tip, which is a little recurved pointed and not truncated: ventral edge scarcely at all incurved: inside bluish white, subnacreous, twenty-two posterior, eighteen anterior teeth.  $\frac{1}{10} \dots 1\frac{1}{10}$ .—*United States*.

\* \* \* *Elliptic*.

*N. MARGARITACEA*.\* *Lam.* 6.—*Philippi.* *p.* 64. *t.* 5. *f.* 8.—*Sow. G.* *f.* 7. (*good.*)—*ARCA M.* *Brug. Dic.* *p.* 109.—*ARCA NUCLEUS.* *Lin.* 1143.—*D.* *p.* 244.—*Brooks. Intro.* *t.* 3. *f.* 36.—*Da Cost.* *t.* 15. *f.* 6.—*Petiv. t.* 17. *f.* 9.—*Gualt.* *t.* 88. *R.*—*W.* *t.* 10. *f.* 42. Ovate subtriangular, moderately convex, nearly smooth, some extremely fine radiating striæ being indistinctly visible near the crenated ventral edge; cuticle olive-yellow; umbones prominent; ventral edge rounded; anterior side much the longer, its dorsal edge moderately sloping; posterior edge all but direct (but not abrupt), convex: beaks acute and recurved: lunule defined by a shallow groove, inside pearly, hinge with numerous straight sharp pectinated teeth.—*An.* VAR? (*N. POLII*? *Phil.* *p.* 63. *t.* 5. *f.* 8.) Larger, more oblique and triangular, olivaceous, with ridges of growth, posterior edge abrupt, anterior more sloping.—*England, France, &c.*

*N. DECUSSATA.* *Sow. Conch. Il. f.* 18. Somewhat triangular, white, decussately striated; posterior side shorter, its slope rather elevated in the middle; anterior side much longer, oblique; ventral margin rounded, its edge crenated.  $\frac{2}{3} \dots \frac{1}{4}$ .—*Guinea*.

*N. RUGULOSA.* *Sow. Conch. Il. f.* 19. Ovate triangular, with a greenish epidermis covered with rugulose striæ; angles obtuse: posterior slope with a central elevation; anterior slope somewhat rounded; ventral margin very finely crenulated.  $\frac{2}{3} \dots \frac{1}{4}$ .

*N. NITIDA*.\* *Sow. Conch. Il. f.* 20. Ovate, subtriangular, smooth, shining, white with an olive coloured epidermis: anterior slope somewhat rounded, posterior nearly straight, with a central elevation.  $\frac{2}{3} \dots \frac{1}{4}$ .

*N. OBLIQUA.* *Lam.* 5.—*Sow. Conc. Il. f.* 21. Obliquely ovate, subelliptical, thin, pellucid, olive, smoothish; posterior side rounded, rather long in proportion to those of this division, its edge convex: anterior side rounded, its dorsal edge much arcuated, the margin very entire.  $\frac{1}{2} \dots \frac{2}{3}$ .—*Valparaiso, South Seas*.

*N. TENUIS*.\* *Turt. B.* *p.* 177.—*F.* *p.* 402.—*Gould. Mas.* *p.* 105. *f.* 64.—*ARCA T.* *Mont. Sup.* *p.* 56. *t.* 29. *f.* 1.—*Pen.* 4. *p.* 215.—*D.* *p.* 246.—*Turt. D.* *p.* 11.—*W.* *t.* 10. *f.* 45. Ovate-trapezoidal, thin, smooth, without radiating lines, glossy grass green; anterior dorsal line scarcely sloping, nearly

parallel to the but slightly arcuated and entire ventral, forming an angle at its extremity and by a broadly rounded curve, united to the ventral (the tip is therefore not angular but very obtuse); beaks prominent, recurved, having a deep pit before them; posterior side extremely short; teeth very long and slender, about eight anterior and four or five posterior.  $\frac{3}{10} \dots \frac{1}{4}$ .—*England, & North America.*

N. CONVEXA. *Sow. Conch. II. f. 22.* Ovate, turgid, whitish smooth, posterior side the shorter, slightly acuminate; anterior side much longer: dorsal slope rounded; ventral margin entire; hinge pit very oblique, teeth of posterior side very few.  $\frac{2}{3} \dots \frac{1}{2}$ .—*China.*

N. PISUM. *Sow. Z. P. 1832.—Sow. Con. II. f. 23.* Small obliquely oval, the posterior side very short, the dorsal margin inclined.  $\frac{1}{3} \dots \frac{1}{4}$ .—*Valparaiso.*

N. EXIGUA. *Sow. Z. P. 1832.—Con. II. f. 24.* Small, obliquely ovate, whitish pellucid, concentrically grooved; anterior side the longer, subacuminate, the posterior extremely short.  $\frac{3}{10} \dots \frac{1}{4}$ .—*W. Colombia.*

N. PROXIMA. *Say. Jour. A. N. S. Phil. 2. p. 270.—Gould. Mas. p. 104.* Subtriangular, oblique, concentrically wrinkled, with numerous minute longitudinal striæ, posterior margin very short and very obtusely rounded, a submarginal impressed line; anterior margin very oblique, and but slightly arcuated: umbo placed far back: inner edge strongly crenated; teeth stout, posterior row very distinct and regular.  $\frac{1}{2}$ .—*U. States.* Very like *Nucleus* but wider, and the posterior row of teeth more regular.

## TRIBE TRIGONIACEA.

*Primary, lamelliform and transversely striated teeth.*

### TRIGONIA.

*Equivalve, inequilateral, trigonal, and sometimes orbicular; teeth of the hinge oblong, laterally compressed, diverging, with transverse furrows; two in the right valve grooved on both sides; and four in the left valve, grooved on one side; ligament marginal and external.*

T. PECTINATA. *Lam.—T. MARGARITACEA. An. du. Mus. t. 67. f. 2.—Sow. G. f. 1, 2.—Bl. t. 70. f. 1.—Reeve. t. 86.—CHAMA P. W. S. t. 2. f. 6.* Suborbicular, longer than broad, with radiating roughish verrucose and elevated ribs; margin plaited. 1.—*New Holland.*

CASTALIA.

*Equivalve, inequilateral, trigonal; the umbones decorticated, and inflexed before; hinge with two lamellar transversely striated teeth, one posterior, remote, abbreviated and subtrilamellar; the other anterior, elongated, and lateral; ligament external.*

C. QUADRILATERA. *D'Orb. Am. t. 73.* Subquadrilateral, inflated, thick, brown, when young entirely covered with broad flat elevated ribs (which in the adult disappear near the margins) beaks prominent, and posteriorly recurved; anteriorly with a prominent keel having the appearance of an acute angle: inside brilliant white, only the anterior tooth striated, the cardinal being infinitely divided.  $4\frac{1}{2}$ .—*S. America.*

C. AMBIGUA. *Lam. 1.*—TETRAFLODON PECTINATUM. *Spix. Braz. t. 25. f. 3, 4.* Ovate-angular, inflated, trigonal, brown, posteriorly short, the beaks not recurved, anteriorly with a rounded keel, at the beaks covered with irregular carinated ribs: shining white, teeth striated.  $1\frac{1}{2}$ .. $2\frac{1}{2}$ .—*S. America.*

C. INFLATA. *D'Orb. Am. t. 72. f. 4. to 10.* Ovate, very inflated subquadrilateral, very thick, greenish brown, with strong ribs at the umbones and usually transverse striæ; beaks prominent: posteriorly very short and rounded; anteriorly elongated, smooth, having the appearance of two prominent obtuse angles: inside bluish white, teeth striated.  $1\frac{1}{2}$ .. $1\frac{3}{4}$ .—*S. America, Guiana.*

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TRIBE NAIADES.

*Shells inhabiting fresh waters; the hinge sometimes having an irregular, simple, or cleft tooth, and a longitudinal, prolonged one, and sometimes none whatsoever, or having irregular granulated tubercles the whole length of the upper part; a compound posterior muscular impression; the umbo usually decorticated.*

UNIO.

*Shell transverse, equivalve, inequilateral, free; umbones decorticated, and somewhat worn; posterior muscular impression compound; hinge with two teeth in each valve; the cardinal tooth short, irregular, simple or cleft, substriated; the lateral elongated, compressed and produced when aged; ligament external.<sup>1</sup>*

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<sup>1</sup> The outline of Mr Lea's Synopsis of the Uniones has been filled up in this monograph.

## DIVISION A.—UNIO PROPER.

*With a cardinal and lateral tooth.*SECTION A.—SYMPHONOTE.<sup>1</sup>

U. INFLATUS. *Lea*.—SYMPHONOTA I. *Lea's Unio*. vol. 1. p. 109. t. 14. Triangular ovate, inequilateral, ventricose, very thin, elevated into a broad high wing posteriorly, a small one anteriorly, both connate; cardinal tooth single in both valves, lateral teeth bladed towards their termination; beaks slightly prominent; ligament concealed; nacre purple, cuticle brown with obsolete rays.  $2\frac{2}{3} \dots 4\frac{1}{2}$ .—*R. Alabama*.

U. ALATUS. *Say*.—*Lam*. 28.—*Swain*. *Ex. C. t.* 7.—*Lea on U.* 1. p. 62.—*MYA A. W. S. f.* 3. Triangular ovate, transversely wrinkled, rather compressed, moderately thick, elevated into a high wing and connate over the ligament; beaks scarcely prominent, cardinal tooth double in both valves, lateral tooth double in the left valve only and slightly curved; ligament concealed, nacre purple.  $4\frac{7}{10} \dots 6\frac{9}{10}$ .—*N. America*.<sup>2</sup>

U. LEVISSIMUS. *Desh. in Lam*. 6. p. 558.—SYMPHONOTA L. *Lea on U.* 1. p. 58. t. 13. f. 23. Subtriangular-ovate, inequilateral, subventricose, finely wrinkled transversely, shining, thin, with two not very high wings, the anterior the larger, both connate; beaks scarcely prominent; ligament concealed; cuticle purplish brown, nacre purple and iridescent; cardinal and lateral teeth forming a curved line.  $2\frac{2}{5} \dots 4\frac{1}{2}$ .—*Ohio*.

U. GRACILIS. *Barnes in Sil. Am. J.* 6.—SYMPH. G. *Lea*.—U. PLANUS. *Barnes*.—U. FRAGILIS. *Swain. Z. Il.* vol. 3. Subtriangular-ovate, inequilateral, transversely wrinkled, rather compressed, thin, anterior dorsal edge connate, wing but little elevated, beaks scarcely prominent; ligament concealed; nacre pearly, violet-purple, iridescent, cuticle yellowish green.  $2\frac{1}{5} \dots 3\frac{1}{10}$ .—*Ohio*.

U. COMPRESSUS. *Lea*.—SYM. C. *Lea on U.* 1. p. 64. t. 12. f. 22. Transverse, much compressed, elliptical, inequilateral, thin, posteriorly rounded, beaks slightly elevated, not decorticated, crowned with small double concentric elevations, tips almost white; anterior dorsal edge rather elevated and angulated at its extremity; cuticle olive green with broad rays all over the disc, nacre pale salmon becoming bluish near the margin; cardinal tooth prominent, lateral small.  $2\frac{4}{5} \dots 1\frac{7}{10}$ .—*Ohio*.

<sup>1</sup> To this division belongs the genus *HYRIA* of Lamarck.

<sup>2</sup> Add likewise the *LYMNADIA GIGAS* of Swainson.

SECTION B.—NON-SYMPHONOTE.

\* *Plicated.*

U. NICKLINIANUS. *Lea. Tr. Am. Ph.* 5. t. 1. Subtriangular, inequilateral, very thick, oblique, very much spread out, with an elevated wing, flattened towards the beaks, very much undulated even to the point of the beak (except near the anterior and ventral edges); cuticle dark brown, nacre pearly white; teeth very thick, the lateral curved. 5 . . 5½.—*China?*

U. CÆLATUS. *Conr. N. F. W. S. of Am. p.* 29. t. 3. f. 4. Subtriangular, very inequilateral, rough, much compressed, with a broad furrow from the beaks to the base, (except the umbo and posteriorly), covered with small irregular interrupted undulations which are profound behind the umbonal slope, with distant slight concentric grooves; umbones much flattened, beaks prominent; cuticle dark olive, obscurely rayed, nacre white and iridescent: teeth thick.—*Tennessee.*

U. HEROS. *Say.*—U. MULTIPLICATUS. *Lea. on U.* 1. p. 80. t. 4. f. 2.—U. LIGAMENTINUS. (*old*) *Lam?*—UNDULATUS. *Say. Am. Con. t.* 16. Trapezoidal, inequivalve, transverse, compressed ventrally and anteriorly, very thick, adorned except posteriorly with broad undulations diverging from the umbonal slope, those near the carinated dorsal edge curving towards it; beaks slightly prominent, the umbones flattened: ligament large long and curved; cuticle black and much wrinkled, nacre pearly white and iridescent: cardinal teeth thick, lateral long and curved. 3½ . . 5½.—*Ohio.*

U. UNDULATUS. *Barnes. in Sil. J.* 6. t. 2. f. 2.—U. COSTATUS. *Conr. Mon. U. t.* 7. Rhombic-ovate, thick, with numerous large waving oblique folds (except on the posterior side which is very short obtusely rounded and merely marked by the transverse wrinkles which become lamellar anteriorly); cuticle blackish brown; nacre pearly white, irregularly spotted with brownish green; ventral edge little arcuated, not incurved: beaks not prominent, eroded: cardinal teeth very thick, direct, sulcated. 3½ . . 4½.—*Ohio.*

U. PLICATUS. *Say. in Ency. Amer.*—*Barnes. & Hildr. in Sil. J.*—U. PERUVIANA. *Lam.* 4.—RERAPLICATA. *Lam.* 5.—DOMBEIANA. *Valen. in Humboldt. Voy.*—U. UNDULATUS & MULTIPLICATUS. *Desh.* Suboval, thick, ponderous, with two or three more conspicuous undulations, which are profound very oblique continued to the anterior ventral edge and not arising from the decorticated umbo: nacre pearly.



U. TRAPEZOIDES. *Lea. on U. 1. p. 79. t. 3. f. 1.*—U. INTERRUPTUS. *Say. Ann. C. t. 33.*—U. CRASSIDENS. *Var. A. Lam. 3.* Trapezoidal, inequilateral, thick, transverse, anteriorly angular above and below, posteriorly obliquely rounded; anterior portion with oblique subparallel large plaits, its slope large and keeled; beaks slightly prominent, incurved: cuticle black and wrinkled, nacre purple and iridescent: cardinal teeth double in both valves, lateral, curved, and lamelliform.  $2\frac{3}{4} \dots 4\frac{3}{4}$ .—*Louisiana*.<sup>1</sup>

U. FOLIATUS. *Hildreth. in Sil. J. 14. f. 16.*—U. FLEXVOSUS. *Conrad. in text.*—FOLIATUS in plate 4 *Monog.* Compressed and shaped like a grape-leaf, the posterior ventral margin having a projecting lobe, on either side of which the edge is incurved anteriorly, rounded posteriorly, beaks flat and eroded, ligament more elevated than the beaks and passing between them; dorsal margin curved: two elevated ridges from the beaks projecting on the anterior dorsal and ventral margins: cuticle dark olive, waved transversely, and obscurely rayed with green across the waves: cardinal teeth small, that in the right valve deeply sulcated, the lateral teeth short and thick: nacre greenish white. 2.—*United States.*

U. PLICIFERUS. *Lea. on U. 2. p. 61. t. 17. f. 53.* Elliptical, inequilateral, somewhat inflated, with numerous small folds on the anterior side and slope, thicker posteriorly: ligament short and light horn coloured, cuticle blackish green, nacre purple: teeth rather large, the lateral straight.  $1\frac{1}{2} \dots 2\frac{1}{4}$ .—*Mexico.*

U. MULTISTRIATUS. *Lea. on U. 1. p. 101. t. 12. f. 22.* Subrectangular, transverse, inequilateral, slightly compressed and rounded nearly alike at both ends, rather thin; beaks slightly prominent, surrounded by wrinkles forming acute angles with each other: ligament linear; cuticle dark brown and wrinkled, nacre bluish white: cardinal tooth oblique, lamelliform, single in the left and double in the right valve, the lateral long and nearly straight.  $1 \dots 1\frac{2}{3}$ .—*Brazil.*

U. SUBTENTUS. *Say. J. A. N. S. Phil. 5. & Am. Con. t. 15.* Oblong-oval, subcompressed, slightly contracted at the middle of the base, dull yellowish brown; beaks not prominent, decorticated: dorsal edge regularly arcuated, without any appearance of an angle: anterior margin with numerous slightly reflected ribs.  $1\frac{1}{4} \dots 3\frac{1}{4}$ .—*North America.*

U. CONRADICUS. *Lea. Trans. Am. Ph. 5. t. 9. f. 23.* Elongated-elliptic, transverse, rounded and short posteriorly, attenuated anteriorly, ligamental edge straight, ventral entire and little

<sup>1</sup> Lamarck's *CASTALIX* belong to this section.

arcuated; thin, indistinctly folded on the anterior parts, beaks finely undulated at the tip: cuticle finely wrinkled, yellowish brown with numerous indistinct greenish rays which anteriorly are disposed to be clouded; nacre white posteriorly, anteriorly iridescent, brownish purple in the cavity: cardinal teeth small and erect, the lateral ill defined.  $\frac{2}{3} \dots 1\frac{1}{2}$ .

U. ACUTISSIMUS. *Lea. on U. l. p. 99. t. 10. f. 18.* Small, narrow elliptical, inequilateral, transverse, very thin, acutely angulated anteriorly, with undulations diverging from the umbonal slope; beaks slightly prominent; ligament linear; cuticle yellow smooth and shining, nacre salmon coloured; cardinal teeth small, the lateral long and straight.  $\frac{2}{3} \dots 1\frac{1}{10}$ .—*R. Alabama.*

U. MURCHISONIANUS. *Lea. Trans. Ph. Am. 5. t. 3. f. 6.*  
—U. DOUGLASII. *Gray. Narrow-elliptical, transverse, thin-*  
nish, angular and produced anteriorly, ligamental edge straightish, ventral edge incurved, beaks and umbones plicated, umbonal slope subcarinated and rough with the angles of the folds; ligament narrow and yellow: cuticle dark green, nacre splendidly pearly, slightly salmon coloured and iridescent: cardinal teeth double in both valves, the lateral straight.  $\frac{2}{3} \dots 1\frac{2}{5}$ .—*China.*

U. GRAYANUS. *Lea. Trans. Am. Ph. 5. t. 9. f. 26.*  
Lanceolate, very transverse, thin, rounded posteriorly, very produced and very acutely angular anteriorly, plicate about the beaks and the anterior side, flattened on the sides, ventral edge slightly incurved in the middle and little arcuated; umbonal slope ridged, green, the beaks depressed: cuticle yellowish with obsolete rays, nacre pearly and iridescent: cardinal teeth double in both valves and erect, the lateral very long thin and nearly straight.  $\frac{2}{3} \dots 3\frac{2}{5}$ .—*China.*

U. PONDEROSUS. *Lea.—MYA P. D. p. 51.—MYA CRASSA.*  
*Wood. G. C. t. 20. f. 21.—W. t. 2. f. 28.* Ovate, ponderous, narrow anteriorly and truncated towards the cartilage slope, the beaks decorticated; cuticle dark brown, longitudinally wrinkled in two different directions: primary tooth very strong shutting into a corresponding cavity.  $3\frac{1}{2} \dots 6$ .—*China.*

\* \* *Nodulous.*

U. LACHRYMOSUS. *Lea. on U. l. p. 14. t. 6. f. 8.* Sub-quadrangular transverse, rather depressed and rounded posteriorly, thick, anteriorly angular above and below: beaks recurved, approximate; not decorticated, covered with delicate raised points which radiate and enlarge in tear-like drops, leaving however untouched an oblique channel running anteriorly to the ventral margin; cuticle yellowish green, very smooth, posteriorly slightly rayed, nacre pearly white and silvery.  $1\frac{1}{10} \dots 1\frac{1}{2}$ .—*Ohio.*

U. ASPERRIMUS. *Lea. on U.* 1. p. 81. t. 5. f. 3.—*Tr. Am. Ph.* 4. t. 5.—U. QUADRULUS. *Say. Am. Con.* t. 53. Subquadrangular, thick, inequilateral; anteriorly biangular, with a broad smooth obtuse keel from the elevated beaks to the ventral margin, the slope and also the posterior edge of the keel nodulous: cuticle fuscous (in the young, yellowish brown with obsolete rays) nacre pearly and iridescent: cardinal teeth very large, lateral large and nearly straight.  $3\frac{1}{2}$ ... $4\frac{1}{2}$ .—*Ohio*.

U. TRAGOSUS. *Conr. Mon. U.* p. 12. t. 6. f. 2. Suborbicular inclining to subquadrate, subequilateral, ventricose; anterior margin direct and obtusely forming an angle with the oblique and nearly straight ligamental edge; with an indistinct narrow furrow (forming a deep sinus at its termination) and two approximate series of very prominent irregular tubercles, anterior slope slightly concave, with a few narrow rib-like tubercles more prominent near the margin; umbo narrow, prominent; beaks much incurved, pointed, tuberculated: cuticle brown, usually with two or three broad, widely interrupted green rays. 2... $2\frac{1}{2}$ .—*Ohio*.

U. PHILIPSII. *Conr. Mon.* t. 5. f. 1. p. 9. Subovate, posteriorly rounded; anterior side narrowed angulated above and below with a wide furrow and a few small tubercles, extremity subincurved: umbonal slope straight, subcarinated and tuberculated; anterior slope concave, indistinctly tuberculated; ligamental edge oblique, rectilinear: ventral edge swelling centrally incurved in front; cuticle yellowish brown, with indistinct filiform rays over the rather prominent umbo, disc with a single row of irregular tubercles in the centre, some of which are elongated and grooved: inside white, cardinal teeth rather small, direct, double in each valve.  $1\frac{1}{2}$ ...2.—*R. Wabash, N. America*.

U. PUSTULATUS. *Lea. on U.* 1. p. 89. t. 7. f. 9. Rounded-obovate, transverse, equilateral, inflated, thick, simply rounded posteriorly, the granulated anterior and the anterior ventral edge incurved: with two vertical rows of tubercles, one nearly central, the other along the umbonal slope; beaks elevated, ligament short and thick; cuticle yellowish brown, nacre white and iridescent: cardinal teeth large, lateral short and straightish.  $1\frac{1}{10}$ ... $2\frac{1}{10}$ .—*Ohio*.

U. SCHOOLCRAFTENSIS. *Lea. Tr. Ph. Am.* t. 3. f. 9.—U. PRASINUS. *Conr.* Transversely obovate, compressed, thickish, slightly tuberculated behind the umbonal slope, anteriorly longer and angulated above and below; beaks elevated, ligament short: cuticle yellow with the rays green and broad (particularly the central one); nacre pearly white and iridescent; cardinal teeth elevated, the lateral straight and lamellar.  $1\frac{1}{10}$ ... $1\frac{1}{10}$ .—*N. America*.

U. APICULATUS. *Say. Am. C.* t. 52. Subquadrate, the diameters subequal, obtusely subangulated, compressed and rather

longer at the anterior side whose margin is generally retuse; posterior side simply rounded, ventral margin incurved before the middle; yellowish or brownish olive, the entire surface studded with small subequal more or less rounded or transverse protuberances arranged in lines which in front of the strongly raised umbonal ridge incline towards the ligament and anterior margin, are angulated in the groove and on the middle, and thence curve posteriorly: umbones not very prominent; within pearly white, iridescent anteriorly.—*N. America.*

*U. ASPER.* *Lea. on U. 1. p. 95. t. 9. f. 15.—Tr. Am. Ph. 4. t. 9. f. 15.* Subquadrate, broader than long, inequilateral, anteriorly angulated, thick, covered with small rough tubercles except in an oblique furrow from the beak to the ventral margin which is there arcuated; beaks slightly prominent; ligament short and thick: cuticle brown and wrinkled, nacre pearly white; cardinal teeth rather large, lateral slightly curved.  $1\frac{1}{2} \dots 1\frac{1}{2}$ .—*R. Alabama.*

*U. DORFEVILLIANUS.* *Lea. on U. 2. p. 73. t. 17. f. 54.* Subtriangular, inflated, tuberculated, inequilateral, very thick; beaks large, very prominent, recurved: ligament short and thick: cuticle dark brown and transversely striated, nacre white; dorsal edge anteriorly very oblique, posteriorly very short and deeply incurved: cardinal teeth large and erect, lateral short and curved.  $2\frac{1}{2} \dots 2\frac{1}{2}$ .—*Ohio.*

*U. STAPES.* *Lea. on U. 1. p. 87. t. 7. f. 8. Tr. Am. 4. t. 7. f. 8.* Subtriangular, subequilateral, thick, rounded posteriorly; anterior slope truncated undulated, nearly perpendicular, flat except just behind the short and thick ligament: posteriorly with triangular tubercles whose angle is directed ventrally; umbonal slope tuberculated, the umbones flattened; cuticle yellow, slightly wrinkled, furnished with indistinct small pencil-like markings, nacre pearly white; cardinal teeth rather large, lateral distinct from the cardinal and pointing to the ventral margin.  $1\frac{1}{2} \dots 1\frac{1}{2}$ .—*R. Alabama.*

*U. METANEVER.* *Lea.—Con. Mon. U. p. 10. t. 5. f. 2.—Raf. —U. NODOSUS (in Sil. J. 6. t. f. 7.) and RUGOSUS. Barnes.* Subquadrate, thick, ventricose, posteriorly rather shorter and rounded above and below; studded except near the edge with large irregularly disposed tear-like tubercles; anteriorly angulated above and below, the incurved edge obtusely forming a rectangle with the almost direct ligamental edge, ventral edge scarcely arcuated; disc with an oblique radiating furrow; umbonal slope very prominent, broad, rounded, and rough with numerous tubercles (some very large): anterior slope wide, concave or angular, with oblique slightly recurved series of rib-like tubercles: umbo slightly prominent, beaks retuse: cuticle yellowish brown with interrupted green rays: within white.  $1\frac{1}{2} \dots 2$ .—*N. America.*

*U. CORNUTUS. Barnes. in Sil. J. 6. t. 4. f. 5.—U. REFLEXUS.*

*Conr. Mon. t. 4. f. 1.* Rounded-triangular, anteriorly angulated, posteriorly rounded and shorter, ventral edge well rounded, beaks somewhat elevated, with the ligament passing between them; anterior slope compressed, bounded by a roundish elevated ridge, marked by small transverse subnodulous wrinkles and obsolete longitudinal grooves: surface waved, a longitudinal row of large distant elevated transversely compressed tubercles divides the shell into two subequal parts: nacre pearly white and iridescent: cardinal teeth sulcated.  $1\frac{1}{2} \dots 1\frac{1}{4}$ .—*N. America.*

*U. PUSTULOSUS. Lea. on U. 1. p. 86. t. 7. f. 7.* Quadrate, as long as broad, equilateral, inflated, anteriorly with large irregular long tubercles, thick; beaks elevated and granular at the tip: ligament short and thick, epidermis bright brown with a single broad interrupted ray in the middle, nacre pearly white and iridescent: cardinal teeth rather large, lateral short thick and straight.—*Ohio.*

*U. TURGIDUS. Lea. on U. 2. p. 11. t. 5. f. 11.—U. MORTONI. Conr. Mon. U. t. 6. f. 1.* Subrotund, inflated, subequilateral, thick, subangular anteriorly, tubercles small crowded on the umbones and scattered near the margin; beaks elevated, ligament short and thick: cuticle dark brown, nacre white and iridescent: cardinal teeth large and compressed, lateral short and nearly straight.  $1\frac{3}{8} \dots 1\frac{1}{2}$ .—*New Orleans.*

*U. COOPERIANUS. Lea. Trans. Am. Ph. 5. t. 8. f. 21.* Suborbicular, transverse, oblique, thick, anteriorly much longer and irregularly tuberculated; beaks thick and elevated; ligament rather short and thick: cuticle wrinkled, dark rusty brown, rays scarcely visible, nacre flesh coloured and white; cardinal teeth rather large, lateral rather short, thick and straight.  $2\frac{1}{2} \dots 3\frac{1}{4}$ .—*Ohio.*

*U. VERRUCOSUS. Barnes. in Sil. J. 6. t. 5. f. 6.—U. TUBERCULOSA. Valen. in Humb. voy. t. 53. f. 2.—TUBERCULATUS. Conr. Mon. t. 22.* Very inequilateral, thick, rounded posteriorly, biangulated and subtruncated anteriorly; ligament deeply inserted between the valves; hinge margin nearly straight, compressed, alated, heel-shaped, making an obtuse angle with the anterior; ventral edge arcuated; cuticle light green (usually tinged with reddish brown), studded anteriorly with irregular transversely compressed tubercles: cardinal teeth crenated or sulcated: nacre brownish red with a tinge of blue or light chocolate (rarely pearly white,) slightly iridescent anteriorly, posterior scar deep and rough.  $1\frac{1}{2} \dots 1\frac{2}{3}$ .

*U. GRANIFERUS. Lea. on U. 2. p. 69. t. 19. f. 60.* Subrotund, longer than broad, inflated, ponderous, sulcated on the anterior slope, tubercles not numerous rather small disposed to be erect and transverse; beaks very prominent; cuticle dark brown, nacre chocolate coloured; cardinal teeth large, lateral short and straightish.  $1\frac{1}{8} \dots 2\frac{1}{4}$ .—*Ohio.*

*U. NODULOSUS. Lea.—MYA N. Wood. G. C. t. 22. f. 1, 2,*

3, 4.—*D. p.* 52.—*W. t.* 2. *f.* 29. Suboval, thick, covered with tubercular knobs uniting into waved masses near the margin; cuticle bottle green, umbones decorticated; nacre pearly white, hinge with a clumsy strong crenated tooth; scars deep, crenated. 2.

*U. IRRORATUS.* *Lea. on U. l. p.* 11. *t.* 5. *f.* 5.—*Tr. Am. Ph.* 3. *t.* 5.—*Eaton.*—*VERRUCOSUS ALBUS.* *Hüdr.* Suborbicular, longitudinal, inequilateral, extremely thick and swollen, dorsal edge rounded; ventral rounded and slightly emarginated; beaks somewhat elevated, recurved, decorticated; cuticle really yellow but so covered with dark green radiating spotted lines as to appear olive; discs transversely and deeply wrinkled, with a slight radiating furrow; tubercles slightly raised numerous and generally seated on the wrinkles: nacre pearly white and silvery: termination of the lateral tooth abrupt.  $1\frac{1}{2} \dots 1\frac{3}{4}$ .—*Ohio.*

*U. DROMAS.* *Lea. Trans. Am. Ph.* 5. *t.* 10. *f.* 29. Subtriangularly suborbicular, suboblique, gibbous, very thick, very short posteriorly; irregularly and transversely folded at the stages of growth, an oblique furrow before the umbonal slope; beaks thick and elevated, ligament short and dark, umbones with a gibbosity; cuticle yellow with numerous dark green dotted rays and posteriorly with about six rather broad ones, nacre pearly white: cardinal teeth wide, the lateral short and thick.  $1\frac{1}{2} \dots 1\frac{2}{5}$ .—*Tennessee.*

*U. ÆSORUS.* *Green. Cont. of Mac. Ly.* 1827. *t.* 3.—*U. CICATRICOSUS.* *Conr. (not Say.)*—*U. VARICOSUS.* *Conr. (not Lea.)* Ovate, compressed attenuated and obtusely angular anteriorly, rounded and short posteriorly, ventral edge anteriorly sinuous: transversely striated and wrinkled on the disc; beaks decorticated and not prominent; a nearly central radiating gibbosity or nodulous ridge produced by the striæ at that point becoming thick and tuberculated: cuticle glossy, tawny (in the young spotted and rayed with brown) nacre white and pearly: teeth thick and striated.—*N. America.*

*U. VARICOSUS.* *Lea. on U. l. p.* 100. *t.* 11. *f.* 20.—*CICATRICOSUS?* *Say.* Subelliptical, oblique, thick, anteriorly compressed, varicose, with transverse concentric elevations; beaks nearly terminal, elevated, incurved; ligament long and large; cuticle reddish brown, nacre pearly white: cardinal teeth rather small, the lateral long large and nearly straight.  $3 \dots 4\frac{1}{2}$ .—*Ohio.*

*U. PERPLEXUS.* *Lea. on U. l. p.* 122. *t.* 17. *f.* 42.—*Tr. Am. Ph.* 4. *t.* 7. *f.* 42.—*GIBBOSUS.* *Conr.* Ovate, oblique, inequilateral, thick, having an irregular nodulous line near the middle which stretches obliquely from the beaks to the ventral margin: umbonal slope irregularly wrinkled, posteriorly to which is a wide slightly impressed furrow; beaks prominent rounded and close to the posterior end: ligament slender and rather long: cuticle smooth shining, yellowish, with numerous small crowded green rays cover-

ing almost the whole disc, nacre milk white : cardinal teeth rather small, the lateral long and straightish.  $1\frac{2}{5} \dots 2\frac{3}{4}$ .—*Ohio*.<sup>1</sup>

U. GRANOSUS. *Brug. Journ. H. N.* 1. t. 6. f. 3, 4.—*Lam.* 37.—*E. t.* 249. f. 2. Obovate, convex-depressed, reddish brown, anteriorly broader and rounded ; with oblique granular striæ, the granules crowded : nacre bluish white.  $1\frac{3}{4}$ .—*Guiana*.

U. TUBERCULATUS. *Barnes. in Sil. J.* 6. t. 7. f. 8.—*Eaton. —Hidr. in Sil. J.* 14. Ovate-oblong, thick and rugged, anteriorly produced compressed attenuated and rounded at the tip, posteriorly short rounded and obtuse ; beaks flat and lower than the ligament : cuticle dark brown with longitudinally elongated tubercles, anterior slope bordered by a ridge from whence proceed deep and irregular nodulous undulations ; nacre white, cardinal teeth crenated, the lateral long and striated.  $2\frac{3}{4} \dots 4\frac{1}{4}$ .—*N. America*.

U. NOVÆ HOLLANDIÆ. *Gray. Z. P.* 1834. Oblong-elongated, slender, solid : posteriorly subcompressed, smooth rounded ; anteriorly subventricose, produced, with large unequal tubercles disposed in curved radiating rows : the disc silvery and spotted with purple, the ventral margin posteriorly very thick : posterior cardinal tooth small, little elevated, bituberculated ; anterior teeth small and placed under the anterior edge of the cartilage : cuticle thick and black. *River Macquarrie, New Holland*.

U. CYLINDRICUS. *Say. in Enc. Am. Nich. Conch.* t. 4. f. 3.—*Eaton. —Hidr. —U. NAVIFORMIS. Lam. —Reeve. t.* 89. Transversely oblong, straight, posteriorly very short and rounded, ligamental edge very long and straight, ventral edge incurved in the middle ; anteriorly angulated above and below and emarginate at the tip : beaks not prominent and as well as the anterior slope (which is bounded by a broad flattened umbonal ridge) undulated : cuticle yellow speckled with angular black marks, nacre pearly white, teeth crested.  $1\frac{1}{4} \dots 3$ .—*Ohio*.

\* \* \* *Spinous.*

U. SPINOSUS. *Lea. on U.* 2. p. 57. t. 16. f. 50.—*Jay. Cat. ed.* 3. pl. 5. Subtriangular, inflated, inequilateral, acutely angular anteriorly, thickish, beaks scarcely prominent, cuticle dark brown and shining, armed with a few long and thick spines : cardinal teeth inclining downwards, the lateral rather large and curved : nacre purple.  $1\frac{1}{2} \dots 3\frac{2}{5}$ .—*Georgia in America*.

\* \* \* \* *Smooth.*

† *Triangular.*

U. ARCÆFORMIS. *Lea. on U.* 1. p. 126. t. 17. f. 44.—*NEXUS. Say. Am. C. t.* 51. Subtriangular, very ventricose,

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<sup>1</sup> Add likewise the U. LEEAI of Gray.

transverse, inequilateral, very thick, posteriorly rounded, anteriorly attenuated and obtusely subangulated; the beaks very broad, prominent and incurved; anterior slope very wide and nearly flat, with a curved widening furrow, anterior ventral edge incurved; cuticle yellowish brown with numerous hair-like rays, nacre white: cardinal teeth thick, lateral short and straight.  $2 \dots 2\frac{1}{2}$ .—*R. Tennessee*.

*U. TRIANGULARIS.* *Barnes. Sil. J. 6. t. 13. f. 17.—Eat.—Hild.—Say. Am. C. t. 4.—FORMOSUS. Lea. on U. 1. (male) p. 121.—Tr. Am. Ph. 4. t. 17. f. 42.—CUNEATUS. Swain. in Phil. Mag. 1823.* Triangular, very convex, gaping at the extremities, the dorsal line forming a rectangle at the beaks, the ventral edge simply arcuated and subincurved anteriorly, extremities rounded; anterior slope very much compressed; beaks broad, pale yellowish olivaceous with green rays of interrupted lines and spots which are sometimes sagittate (disappearing near the margin in old specimens); longitudinal slightly elevated lines cross the transverse wrinkles.  $1\frac{1}{4} \dots 1\frac{1}{2}$ .—*North America*.

*U. ELEGANS.* *Lea. on U. 1. p. 93. t. 19. f. 13.—Tr. Am. Ph. 4. t. 9. f. 13.* Subtriangular, transverse, subequilateral, thick but thinner and acutely angular anteriorly, flattened over the umbones: cuticle yellowish green with numerous rays formed of zigzag radiating lines, nacre pearly white and iridescent, rarely rose coloured: beaks incurved, flattened and nearly touching: ligament short and thick: cardinal teeth large and elevated, the lateral nearly straight.  $1\frac{1}{4} \dots 1\frac{1}{2}$ .—*Ohio*.

*U. DONACIFORMIS.* *Lea. on U. 1. p. 9. (§ Tr. Am. 3.) & 4. f. 3.* Inequilateral, cuneiform, transverse, wrinkled, of moderate thickness pointed anteriorly, rounded posteriorly; cuticle olive with green rays; nacre pearly white: beaks anteriorly angulated, not decorticated, almost touching: anterior dorsal edge subcarinated: cardinal tooth very prominent.  $1 \dots 1\frac{1}{2}$ .—*Ohio*.

*U. ZICZAC.* *Lea. on U. 1. p. 54. t. 12. f. 19.—Tr. Am. Ph. 3. f. 19.—Eat.* Ovate, inequilateral, ventricose, thickish, not at all angulated: beaks rather prominent, often eroded; ligament short and thick, cuticle yellowish covered with rays composed of fine zigzag green lines, nacre pearly white; cardinal teeth large and erect, the lateral curved.  $\frac{9}{10} \dots 1\frac{1}{2}$ .—*Ohio*.

*U. HETERODON.* *Lea. on U. 1. p. 42. t. 8. f. 11.—Tr. Am. Ph. 3. t. 8. f. 11.* Rhomboidal-ovate, inequilateral, ventricose, thin, transverse, rounded posteriorly, anteriorly angulated and broader: dorsal edge straightish; cuticle wrinkled, greenish brown with oblique obscure rays, nacre white; beaks prominent: cardinal teeth compressed and white, the lateral slightly curved, the double tooth in the right valve.  $\frac{9}{10} \dots 1\frac{1}{2}$ .—*Pennsylvania*.

*U. PENITUS.* *Conr. N. F. W. S. p. 33. t. 5. f. 1.* Tri-



angular, very thick, ventricose, umbones flattened, beaks prominent and rounded, umbonal slope angulated; anterior margin flattened, a broad convex elevation marked with radiating prominent lines (which dentate the margin) and concentric grooves projecting ventrally: cuticle olivaceous and wrinkled, nacre very white: ligament very short: cardinal teeth double in both valves, thick, prominent sulcated and granulated.  $2\frac{1}{2}$ .—*R. Alabama*.

U. SECURIS. *Lea. on U. 1. p. 51. t. 11. f. 17.*—*Eat.*—U. DEPRESSA. *Raf. not. Lam.* Subtriangular heart-shaped, inequilateral, flattened over the umbones, thick; beaks elevated, recurved, much compressed: ligament shortish and thick: cuticle olive yellow passing into olive brown, shining and transversely wrinkled, nacre pearly white and iridescent.  $1\frac{1}{2}$ ..  $1\frac{2}{3}$ .—*Ohio*.

U. CAMELUS. *Lea. Trans. Am. Ph. 5. t. 15. f. 45.* Transverse, subtriangular, thick; rounded, short and very attenuated posteriorly; flattened over the umbones from the beaks to the ventral margin, which is little arcuated and incurved in the middle; anteriorly subcuneiform, cuticle yellowish brown with capillary rays, nacre white; cardinal teeth small, the lateral large thick and curved.  $2\frac{2}{3}$ ..  $3\frac{1}{2}$ .—*Ohio*.

U. OVATUS. *Say. in Enc. Am. Nich.*—*Lam.*—*Conr. Mon. 2. f. 1, 2, 3.*—*Barnes.* Obovate, convex, not thick, deeply wrinkled, glossy, umbones prominent, epidermis yellowish or horn coloured, rayless; anterior slope flattened and fuscous, somewhat waved with striæ, and wrinkles which become lamellar: hinge-margin making an angle with the anterior and posterior dorsal edges; nacre pearly, bluish white: beaks subcentral, recurved; teeth elevated, the cardinal compressed and crestlike.  $2\frac{2}{3}$ ..  $3\frac{1}{3}$ .—*Ohio*.

U. SUBOVATUS. *Lea. on U. 1. p. 128. t. 18. f. 46.* Subovate, transverse, inflated, thick, inequilateral: beaks elevated, incurved and undulated at the tips; ligament short and thick: cuticle yellowish with numerous oblique green rays, nacre white and very pearly: cardinal teeth double in both valves and erect, the lateral short and lamelliform.  $3$ ..  $4\frac{1}{2}$ .—*Ohio*.

U. CRASSIDENS. *Lam.*—U. NIGER. *Conr. Mon. U. t. 26.*—U. CUNEATUS. *Barnes.* Elongated and subtriangular, ponderous, anteriorly narrowed wedge-shaped and compressed; umbones somewhat elevated, beaks low and distant: anterior depression elongated, heart-shaped and furrowed, the ventral edge slightly rounded: cuticle blackish brown, somewhat ferruginous: an elevated ridge from the beaks anteriorly: nacre brownish purple and iridescent; cardinal teeth deeply divided and sulcated, the lateral long curved and not thick.  $2\frac{2}{3}$ ..  $3\frac{1}{2}$ .—*North America*.

U. CARBONARIUS. *Lea. on U. 2. p. 37. (f in Tr. Am. Ph. 4.)*

t. 11. f. 32. Subtriangular, transverse, swollen, inequilateral, thick, ventral margin centrally incurved, anterior side rounded; beaks rather prominent: cuticle black and (apparently) without rays, nacre purple and iridescent: cardinal teeth rather large, lateral small and somewhat curved.  $1\frac{2}{3} \dots 2\frac{2}{3}$ .—*Mexico*.

U. GIBBER. *Lea. on U. 2. p. 35. t. 10. f. 30.* Triangular, compressed, inequilateral, transverse, anteriorly somewhat triangular and elevated on the dorsal edge, thickish, ventral edge centrally incurved: beaks rather prominent, ligament short, cuticle dark brown, (apparently) not rayed, nacre salmon coloured: cardinal teeth small, the lateral inclined.  $4 \dots 1\frac{1}{2}$ .—*Tennessee*.

U. PUMILIS. *Lea. on U. 2. p. 23. t. 7. f. 17.* Subtriangular, transverse, inequilateral, thinnish, anteriorly subbiangular and its dorsal edge straightish; beaks somewhat prominent: ligament short: cuticle dark brown, nacre white: cardinal teeth large, the lateral short and straight.  $\frac{2}{3} \dots 1\frac{1}{10}$ .—*N. Carolina*.

U. RUBIGINOSUS. *Lea. on U. 1. p. 41. t. 8. f. 10.—Tr. Am. Ph. 3. t. 8. f. 10.* Inequilateral, transverse, subventricose thickish, obovate, posterior and ventral edges rounded, anterior incurved, anterior dorsal sloping; beaks prominent, incurved, anteriorly subangulated: cuticle rusty or salmon-yellow (wrayed when young,) nacre salmon coloured; cardinal tooth large, the lateral thick.  $2\frac{1}{10} \dots 2\frac{2}{10}$ .—*Ohio*.

U. BARNESIANUS. *Lea. on U. 2. p. 31. t. 10. f. 36.* Subtriangular, compressed, inequilateral thick: beaks rather prominent: cuticle chestnut brown with interrupted green rays and strong marks of growth; nacre white and iridescent: cardinal teeth small, the lateral nearly straight.  $1 \dots 1\frac{2}{3}$ .—*Tennessee*.

U. PILEUS. *Lea. on U. 1. p. 129. t. 18. f. 47.—Tr. Am. Ph. 4. t. 18. f. 47.* Subtriangular, ventricose, thick, posteriorly rounded, angular anteriorly, longitudinally furrowed in front of the umbonal slope which is flattened on the ridge, the furrow causing a slight emargination on the ventral margin; beaks prominent and rounded at the tip: ligament short and thick: cuticle yellowish brown, wrinkled, rays numerous and hair-like, nacre pearly white and iridescent; cardinal teeth large, lateral shortish and slightly curved.  $1\frac{1}{2} \dots 1\frac{3}{4}$ .—*Ohio*.

U. SOWERBIANUS. *Lea.—Trans. Am. Ph. 5. t. 10. f. 28.* Subtriangular, thick, inflated, singularly compressed on the anterior part which is filled with striæ from the anterior and the anterior ventral edges, the posterior part being inflated and smooth; slightly emarginate at anterior ventral edge: beaks large and very prominent; ligament short and thick; cuticle bright brown, smooth and shining behind, striate before, nacre very light purple; cardinal teeth large, the lateral thick and nearly straight.  $1\frac{7}{10} \dots 1\frac{1}{2}$ .—*Tennessee*.

U. TRIGONUS. *Lea. on U. 1. p. 120. (f in Tr. Am. 4.) t. 16.*

*f.* 40. Subtriangular, inflated, subequilateral, depressed before the umbonal slope which is carinated, thick, anteriorly angular, the ventral margin emarginate: beaks prominent, incurved and slightly undulated at their tips: ligament short and thick: cuticle brown, rays obsolete, nacre pearly white and iridescent: cardinal teeth large, lateral large and slightly curved.  $2 \dots 2\frac{3}{8}$ .—*Ohio*.

*U. SOLIDUS.* *Lea. on U.* 2. *p.* 13. (*& Tr. Am.*) *t.* 5. *f.* 13. Oblique, inflated, very thick inequilateral: beaks very elevated and retuse; ligament shortish and thick; cuticle rusty green, (sometimes obscurely rayed) nacre pearly white: cardinal teeth thick, lateral oblique and short.  $1\frac{7}{8} \dots 1\frac{1}{2}$ .—*Ohio*.

*U. OBLIQUUS.* *Lam.*—*U. UNDATUS.* *Barnes in Sil. J.* 6. *t.* 4. *f.* 4.—*TRIGONUS.* *Say. & Conr.*—*CORDATUS.* *Conr. Mon. U.* *t.* 25. Subtriangular, longer than broad, thick, very tumid, posteriorly obtuse and very short, anteriorly rapidly narrowed and angulated: beaks elevated and recurved, with the ligament passing between them; ventral edge compressed in the middle; cuticle horn coloured and glabrous, nacre pearly white: cardinal teeth deeply sulcated and crenated, two lateral ones in each valve.  $2\frac{1}{2} \dots 2\frac{1}{10}$ .—*N. America.*

*U. PYRAMIDATUS.* *Lea. on U.* 1. *p.* 119. (*& Tr. Am.* 4.) *t.* 16. *f.* 39.—*U. MYTILOIDES.* *Raf.*—*MYA OBLIQUA.* *Wood. S.* *t.* 2. *f.* 8. Subpyramidal, longitudinal, inflated, oblique posteriorly thicker, swollen and very short, beaks very much elevated, recurved and incurved: cuticle dark brown and finely wrinkled, nacre flesh colour; cardinal teeth large and crenated, the lateral long, distinct from the cardinal and pointing ventrally.  $2\frac{3}{10} \dots 2\frac{1}{10}$ .—*Ohio*.

†† *Oblique.*

*U. TROOSTENSIS.* *Lea. Trans. Am. Ph.* 5. *t.* 10. *f.* 30.—*U. TRABALIS.* *Conr. Mon. U.* *p.* 110. *t.* 60. *f.* 2. Oblong-ovate, ventricose, posteriorly short and rounded, anteriorly produced attenuated obtusely cuneiform, ventral edge slightly arcuated and entire: umbonal slope rounded, anterior slope flattened or concave (in old shells furrowed); beaks eroded and rather prominent; cuticle smooth, polished, dark olive tinted with green, with dark green unequal rays: within dull white or slightly salmon coloured posteriorly, bluish and very iridescent anteriorly, cardinal tooth in one valve very thick and direct.  $1\frac{1}{2} \dots 1\frac{3}{4}$ .—*N. America.*<sup>1</sup>

*U. TAITIANUS.* *Lea. Tr. Am. Ph.* 5. *t.* 4. *f.* 11. Subtriangular, thick (particularly posteriorly), depressed posteriorly to the umbonal slope, beaks very thick and much elevated; cuticle dark brown and wrinkled, nacre pearly white: cardinal teeth large and elevated, the lateral thick and slightly curved.  $1\frac{1}{2} \dots 1\frac{1}{2}$ .—*R. Alabama.*

<sup>1</sup> Add likewise the *U. TIGRIS* of Ferussac.

U. COR. *Conr. N. F. W. S. p. 28. t. 3. f. 3.* Obliquely cordate, thick, with concentric furrows, a slight and broad depression from the beaks to the base; beaks and umbones very prominent; umbonal slope subangulated, submarginal; posterior side short, subtruncated, anterior side flattened behind the umbonal slope: cuticle rugose, olivaceous with green interrupted rays (some broad), nacre white and iridescent: teeth much elevated granulated and sulcated.—*R. Alabama.*

U. TRUNCATUS. *Smayn. Z. II. 2d series.* Thick oblong, the umbones close to the posterior margin which is truncated, anterior side produced and cuneiform, ventral edge little arcuated; very convex, nearly smooth, cuticle fulvous, nacre pearly.  $1\frac{3}{4} \dots 3\frac{1}{4}$ .

U. DECISUS. *Lea. on U. 1. p. 102.—Conr. Mon. U. t. 3. f. 2.* Very inequilateral, oblique, wedge-shaped, scaleniform and very thick; anteriorly subacuminated, posteriorly obliquely obtuse and inflated: beaks elevated incurved, nearly terminal, generally decorticated; ligament rather small; cuticle yellowish brown sometimes with oblique indistinct brown rays, nacre pearly white; cardinal teeth smallish, lateral thick.  $1\frac{7}{10} \dots 3\frac{1}{4}$ .—*R. Alabama.*

U. CLAVUS. *Lam.—Conr. Mon. U. p. 5. t. 3. f. 1.—MODIOLIFORMIS of Say. (not Lea.)—U. SCALENIUS. Raf. Ann. de Sc. Phy. 5. t. 81. f. 24, 5.* Cuneiform, very oblique; anterior side produced, compressed, with an oblique furrow rapidly widening from the umbo; ligamental margin arcuated, very oblique; umbo elevated, narrowed, inclining posteriorly, beaks curved to a point, terminal; epidermis wrinkled, olive yellow or brownish with interrupted rays over the umbo, disappearing by age; inside white, iridescent anteriorly: cardinal tooth in the left valve, nearly parallel with the ligament margin.  $1\frac{1}{2} \dots 1\frac{3}{4}$ .—*N. America.*

U. PATULUS. *Lea. on U. 1. p. 55. (♂ Tr. Am. 3.) t. 12. f. 20.* Ovate, compressed, wedge-shaped, inequilateral, oblique, transverse, compressed on the umbones, thickish, anteriorly attenuated, sloping from the beaks on both sides, posteriorly obtuse and very short: cuticle yellowish brown, wrinkled, with more or less broad interrupted rays, nacre pearly white; cardinal tooth small, the lateral long and slightly curved.  $1\frac{3}{8} \dots 2\frac{3}{10}$ .—*Ohio.*

U. RAVENELIANUS. *Lea. Trans. Am. Ph. 5. t. 3. f. 5.* Transversely ovate, short and obliquely rounded posteriorly, subangulated anteriorly; ligamental edge straightish, ventral little arcuated; ligament short and thick; cuticle dark brown, finely wrinkled, nacre pearly white, partly iridescent; teeth thick, the cardinal short, the lateral straight.  $\frac{9}{10} \dots 1\frac{1}{2}$ .—*Tennessee.*

U. RANGIANUS. *Lea. on U. 2. p. 95. (♂ Tr. Am. Ph.) t. 18. f. 56.* Oblique, somewhat compressed, obovate, very inequilateral, thickish, anteriorly very broad, rounded at both ends, dorsal edge straightish, ventral subincurved in the middle: beaks prominent;

cuticle yellowish, covered with green rays, nacre white; cardinal teeth small, the lateral long and straight.  $1\frac{1}{2} \dots 1\frac{1}{2}$ .—*Ohio*.

*U. SULCATUS*. *Lea. on U.* 1. p. 44. (§ *Tr. Am. Ph.* 3.) t. 8. f. 12.—*Eat.—Say. Am. Con.* t. 5.—*RUDIBUNDUS* (*female*). *Say. Am. C. t.* 5.—*Eat.* Subelliptic, short very thick, inequilateral, ventricose, ventral edge incurved anteriorly by an oblique hollow running from the beaks, which are nearly terminal obtuse eroded and prominent; cuticle olive brown, wrinkled, with numerous fine radiating hair-like lines, (except posteriorly), nacre purple: the teeth large and double in both valves.  $1\frac{1}{10} \dots 2\frac{3}{10}$ .—*Ohio*.

*U. HAYSIANUS*. *Lea. Trans. Am. Ph.* 5. t. 3. f. 7. Subrotund, transverse, subventricose, scarcely thick, subequilateral, but rather longer anteriorly, dentated at the anterior ventral edge, depressed before the umbonal slope; beaks thick and elevated: cuticle yellowish brown, very smooth and shining, the rays obsolete, nacre chocolate: cardinal teeth lobed, the lateral smooth and straight.  $\frac{4}{5} \dots 1$ .—*N. America*.

*U. ELLIPSIS*. *Lea. on U.* 1. p. 10. (§ *Tr. Am.* 3.) t. 4. f. 4.—*Eat.—BREVIALIS?* *Sow.* Elliptical, ventricose, very thick, rounded at both ends; beaks all but terminal, decorticated; surface somewhat wrinkled, the cuticle smooth and reddish brown, the nacre pearly white and silvery, teeth large and well defined, the cardinal crenulated.  $1\frac{1}{10} \dots 2\frac{3}{10}$ .—*Ohio*.

*U. CASTANEUS*. *Lea. on U.* 1. p. 101. (§ *Tr. Am.* 4.) t. 11. f. 21. Obovate, transverse, thick, oblique, inequilateral, inflated, rounded at both ends, ventral margin very convex, beaks prominent, ligament short; cuticle dark brown, becoming yellowish, with a few rays anteriorly, nacre very pearly and iridescent: cardinal teeth large, lateral short and straightish.  $\frac{4}{5} \dots 1$ .—*R. Alabama*.

† † † *Oval*.

*U. TAMPICOENSIS*. *Lea. on U.* 2. p. 24. (§ *Tr. Am. Ph.*) t. 7. f. 18. Ovate, transverse, inflated, subcarinated, inequilateral, thick, beaks somewhat prominent, ligament large and long: cuticle blackish and (apparently) rayless, nacre white and iridescent (rarely rose colour): cardinal teeth large, lateral long straightish and large.  $2\frac{1}{2} \dots 4\frac{1}{10}$ .—*Mexico*.

*U. LECONTIANUS*. *Lea. on U.* 2. p. 40. t. 12. f. 35. Elliptical, transverse, inequilateral, somewhat inflated, thick, ventral and dorsal edges straightish and subparallel, anterior side subbiangular; beaks slightly elevated; cuticle yellowish brown and obscurely rayed, nacre pale salmon coloured, cardinal teeth small, the lateral long and separate.  $1\frac{1}{10} \dots 2\frac{1}{2}$ .—*Georgia in America*.

*U. PERDIX*. *Lea. Trans. Am. Ph.* 5. t. 11. f. 31. Transverse, elliptical, inflated, thickish, anteriorly subangulated and rather longer, ligamental edge straight, ventral edge entire; beaks

slightly elevated and without undulations at the tip; ligament short and thick: cuticle yellowish covered with irregularly interrupted rays, nacre pearly white and iridescent: cardinal teeth elevated, the lateral larger near their termination.  $1\frac{2}{10} \dots 3\frac{1}{10}$ .—*Tennessee*.

U. PECTOROSUS. *Conr. N. F. W. p. 37. t. 6. f. 1.* Oval, ventricose, not thick, anteriorly obtusely biangulated and longer; umbonal slope subangulated, the space behind flattened, with an impressed line from the beaks to nearly the middle of the anterior margin: ventral edge arcuated and entire; umbones wide and prominent, beaks slightly elevated; cuticle brownish olive rayed with angular spots, nacre white: cardinal teeth direct, subpyramidal, prominent. 3.—*Tennessee*.

U. VENTRICOSUS. *Barnes. Sil. J. 6. t. 14. f. 14.* Large, thick, triangularly ovate, transverse, convex, the umbones large round and prominent, the beaks recurved, and the cavity capacious: smooth, anteriorly very broad and subtruncated, anteriorly rapidly narrowed, ventral edge entire and arcuated; anterior slope longitudinally waved: cuticle yellowish olive becoming chestnut brown on the umbones (rayed when young with green) nacre dull white; cardinal teeth broad, prominent and obliquely flattened, the lateral broad elevated and abruptly ending anteriorly.  $3\frac{1}{2} \dots 4\frac{1}{2}$ .—*North America*.

U. OCCIDENS. *Lea. on U. 1. p. 49. (§ Tr. Am. Ph. 3.) t. 10. f. 16.*—VENTRICOSUS. *Say. Am. 6. t. 32.* Inequilateral, transverse, ventricose, thick, rounded at both ends, posteriorly very narrow, anteriorly very broad; beaks large, rounded, approximate, prominent, subundulated and rarely decorticated: ligament rather short and thick: cuticle olive yellow with oblique green rays, which are more crowded anteriorly, nacre white: teeth elevated.  $2\frac{1}{10} \dots 3\frac{2}{5}$ .—*Ohio*.

U. DOLABRIFORMIS. *Lea. on U. 2. p. 103. (§ Tr. Am. Ph.) t. 24. f. 113.* Elliptical, transverse, inequilateral, thick; dorsal edge incurved, posteriorly much lower and angulated at its extremity, ventral edge straightish in the middle; beaks inflated and prominent: umbonal slope somewhat carinated and obscurely rayed: cuticle brown and finely wrinkled, nacre white and iridescent: cardinal teeth somewhat lamellar, the lateral long and lamellar. 3..4½.—*Georgia in America*.

U. GLOBOSUS. *Lea.*—SYMPHONOTA G. *Trans. Am. Ph. 5. t. 4. f. 12.* Transversely obovate, very globose, inequilateral, thinnish, pellucid, ventral edge much arcuated, hinge margin much curved and angulated at the extremities; beaks very round, incurved; cuticle very smooth and pale yellow, nacre pearly white and iridescent; teeth lamellar, the lateral elevated.  $2\frac{1}{2} \dots 3\frac{1}{2}$ .—*Ohio*.

**U. SPLENDIDUS.** *Lea. on U. 2. p. 70. t. 19. f. 61.* Elliptical, very inflated, thickish, inequilateral, ventral edge somewhat rounded; beaks prominent, anterior slope with three indistinct ribs; umbonal slope carinated: cuticle yellowish covered with numerous dark green rays, nacre rosy; cardinal teeth somewhat compressed, the lateral separate and lamellar.  $1\frac{1}{10} \dots 2\frac{3}{4}$ —*Georgia in America.*

**U. OCHRACEUS.** *Say. in Nic. Enc. Am. Conc. t. 2. f. 8.—Conr. Mon. U. t. 17. f. 2.—SYMPHONOTA O. Lea. on U. 1: p. 69.* Subovate, inequilateral, transversely wrinkled, inflated, thin, connate before the ligament which is not concealed, not winged; beaks full and prominent, with several concentric undulations: cuticle glossy, varying from yellow ochre to brown ochre, with oblique rays which anteriorly are more numerous, nacre bluish white and ochraceous; cardinal and lateral teeth forming a curved line.  $1\frac{1}{10} \dots 2\frac{1}{10}$ —*Delaware.*

**U. CARIOSUS.** *Say. Enc. Am.—Am. C. t. 3. f. 2.—Barnes.—Lam.—U. LUTEOLA. Conr. Ovate or oval, not very thick, anteriorly longer, (and usually dilated) discs swelled, umbones elevated; cuticle olive brown, or greenish, usually rayed with green, nacre bluish white, often white reddish rose or salmon; ligament elevated: cavity moderate.  $2\frac{3}{10} \dots 1\frac{7}{10}$ —*N. America.**

**U. PEROVATUS.** *Conr. N. F. W. S. p. 47. t. 2. f. 3.—Sil. Jour. 25. t. 1. f. 3.* Transverse, ovate, rather ventricose, thick but thinner on the anterior side, which is longer attenuated and obtusely subangulated above and below; ventrally and posteriorly rounded, beaks rather elevated, approximated and undulated: cuticle olive, wrinkled on the margin, nacre white: cardinal teeth erect and prominent, not very thick. 2.—*R. Alabama.*

**U. ALTILIS.** *Conr. N. F. W. S. p. 43. t. 2. f. 1.* Transverse, suboval, thin, inflated, beaks slightly prominent and much dilated; anteriorly longer dilated and obtusely subangulated, ventral edge arcuated and entire, umbonal slope rounded, behind which is an obscure radiating rib: cuticle blackish, rugose, olivaceous over the umbones and rayed with short vermicular lines on the anterior slope, nacre whitish and iridescent; cardinal teeth subpyramidal, erect, the lateral distant. 2.—*Alabama.*

**U. MULTIRADIATUS.** *Lea. on U. 1. p. 48. t. 9. f. 15.—U. FASCIOLUS. Conr. Mon. U. t. 11. f. 2.—U. LIGAMENTINA. Desh.* Elliptical, transverse, inequilateral, ventricose, thin, anteriorly obtuse, posteriorly and ventrally rounded; beaks prominent and slightly undulated, cuticle olive yellow covered with green rays, nacre bluish white: cardinal teeth erect and double in both valves, the lateral lamelliform and abrupt.  $1\frac{1}{10} \dots 2$ —*Ohio.*

**U. NOVI EBORACI.** *Lea. on U. 2. p. 104. t. 24. f. 114.* Elliptical, somewhat compressed, inequilateral, thickish, posteriorly

obliquely rounded, ventral edge somewhat rounded: beaks somewhat prominent, undulated at the tip; cuticle yellow with green rays nearly over the disc; nacre white and iridescent; cardinal teeth large and erect, lateral long and straight.  $1\frac{1}{10} \dots 2\frac{1}{2}$ .—*New York*.

*U. PEROVALIS*. *Conr. N. F. W. S. p. 43. t. 2. f. 2*. Shortish, oval, moderately thick, inflated, transverse, inequilateral: anterior side obtusely truncated obliquely, ventral edge arcuated and entire; umbonal slope rounded; cuticle olivaceous, obscurely rayed, wrinkled on the margins; nacre whitish and iridescent anteriorly: teeth prominent and granulated.—*Var.* Reddish brown, nacre rosy. 2.—*R. Alabama*.

*U. CAPSAFORMIS*. *Lea. Tr. Am. Ph. 5. t. 2. f. 4*. Transversely elliptical, shorter and rounded posteriorly, subangulated above and below, anteriorly convex, ligamental edge straight, beaks slightly elevated, ligament short and thick; cuticle yellow with numerous short green rays, nacre white and iridescent anteriorly; teeth elevated, the cardinal double in both valves, the lateral lamellar.  $1\frac{3}{8} \dots 1\frac{9}{10}$ .—*N. America*.

*U. GREENII*. *Conr. N. F. W. S. 32. t. 4. f. 1*. Subovate, transverse, thickish, posteriorly not very short rounded, ligamental edge sloping, obtusely angulated at its end; beaks slightly prominent umbonal slope straight, subangulated: cuticle wrinkled, olivaceous, rayed anteriorly; nacre bluish white; a short obtuse elevation passing obliquely from beneath the cardinal teeth which are thick, the lateral striated and minutely granulated.  $1\frac{1}{2}$ .—*R. Alabama*.

*U. PICTUS*. *Lea. Trans. Am. Ph. 5. t. 11. f. 32*. Transversely elliptical, dilated and produced anteriorly, thinnish; beaks compressed and finely undulated at the tip, ligament short and rather thick; cuticle yellow, with numerous oblique interrupted rays which are strongly pencilled at the commencement of each stage of growth, nacre pearly white and iridescent: cardinal teeth small, the lateral long and slightly curved.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Tennessee*.

*U. TÆNIATUS*. *Conr. N. F. W. S. 26. t. 4. f. 2*. Transverse, regularly convex and elliptical, the beaks slightly prominent, the umbonal slope rounded, ligament slope with a slightly impressed line, ventral edge rounded: cuticle wrinkled olivaceous, with green interrupted rays, nacre bluish white, teeth prominent. 2.—*R. Alabama*.

*U. INTERRUPTUS*. *Lea. on U. 2. p. 15*. Transverse, elliptical, compressed, inequilateral, thickish, ventral edge rounded, posterior dorsal sloping; beaks somewhat compressed, rather prominent, the umbones flattened; ligament shortish; cuticle yellow, rather smooth, covered with broad green interrupted rays, nacre white; lateral teeth rather long and curved.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Tennessee*.

*U. MENKIANUS*. *Lea. on U. 2. p. 76*. Elliptical, rather com-



pressed, thinnish, inequilateral, ventral edge somewhat rounded : beaks somewhat prominent and undulated : cuticle fulvous, covered with numerous rather large green rays, nacre pearly white and iridescent : cardinal teeth small and erect, the lateral long and nearly straight.  $1\frac{1}{2}..2\frac{1}{2}$ .—*Tennessee*.

U. VENUSTUS. *Lea. on U. 2. p. 4. t. 2. f. 4.* Elliptical, transverse, somewhat compressed, inequilateral, thickish, dorsal edge posteriorly sloping, ventral posteriorly subincurved : beaks scarcely prominent : cuticle yellowish with green somewhat sinuous rays, nacre pearly white and iridescent : cardinal teeth small, the lateral rather curved.  $1..1\frac{1}{10}$ .—*Missouri*.

U. CRASSUS. *Say. Am. C. t. 8.*—*Barn. in Sil. J. 6. f. 1.*—U. LIGAMENTINA. *Lam.*—ELLIPTICUS AND CARINATUS. *Barnes.*—MYA GRAVIS. *Wood. S. f. 6.*—U. FASCIATUS. *Conr.* Varying in form, usually more or less oval, very thick and tumid, light brown, rounded posteriorly, slightly angulated anteriorly : surface waved, beaks projecting, nacre pearly white and iridescent ; cardinal teeth direct, very thick, lobed, angulated and deeply sulcated ; posterior cicatrix deep and rough.  $3\frac{1}{2}..4\frac{1}{2}$ .—*N. America*.

U. ORBICULATUS. *Hldr. in Sil. J. 14.*—ABRUPTUS. *Say.*—CRASSUS. *Conr. Mon. U. t. 16.* Suborbicular, anterior margin broad and slightly rounded, posterior short and narrow : discs much inflated ; ligament thick elevated and passing between the beaks, which are broad, somewhat elevated and directed backwards ; cuticle changing from dark chestnut on the discs to light brown, nacre flesh colour and iridescent : cardinal teeth elevated and angulated.  $2\frac{1}{2}$ .—*U. States*.

U. AUSTRALIS. *Lam. 46.* Transversely ovate, subsinuated in the middle, lateral extremities rounded : cardinal tooth small, compressed, and rather acute.  $2\frac{1}{2}$ .—*New Holland*.

U. HYDIANUS. *Lea. on U. 2. p. 14. t. 6. f. 14.* Elliptical, transverse, very inequilateral, subinflated, thickish ; ventrally subincurved, rounded at both ends : cuticle yellow, covered with dark green rays, nacre white and iridescent : cardinal teeth elevated, lateral long and separate.  $1\frac{1}{2}..2\frac{1}{2}$ .—*Louisiana*.

U. CLAIRBORNEENSIS. *Lea. on U. 2. p. 105. t. 24. f. 115.* Elliptical, subinflated, inequilateral, thick ; beaks somewhat prominent ; ligament rather long and thin : cuticle yellow, smooth, with a few obsolete rays : nacre white and iridescent : cardinal teeth small and compressed, lateral long and lamellar.  $1..1\frac{1}{10}$ .—*R. Alabama.*—*Clairborne*.

U. LUTEOLUS. *Lam.*—U. SILIQUOIDES. *Barnes.*—*Con. Am. 6. t. 10. f. 1.*—INFLATUS. *Barnes.* Elliptical, ventricose, moderately thick, glabrous, olive yellow, with numerous green rays varying much in size ; posteriorly rounded, not very short ; anterior edge forming an angle with the almost direct and straight ligamental

ventral edge simply arcuated; umbones not prominent, umbonal slope undefined; beaks with flexuous undulations; inside bluish white, cardinal teeth oblique, lateral slightly decurved anteriorly.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Delaware, &c. N. America.*<sup>1</sup>

U. PULCHER. *Lea. on U. 2. (and Tr. Am. Ph. 6.) p. 6. t. 3. f. 6.* Elliptical, transverse, somewhat compressed, inequilateral, thickish, ventral edge rounded; beaks irregularly undulated; cuticle yellow, covered with numerous dark green well defined rays, nacre pearly and pink: cardinal teeth erect, lateral enlarged near their termination.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Tennessee.*

U. RADIATUS. *Lam. 13.*—U. VIRGINIANA? *Lam. 39.*—MYA RADIATA. *Gmel. 3220.*—*D. p. 51.*—MYA OBLONGATA. *Wood. f. 2.*—*Ch. f. 7.* Obovate, thin, convex-depressed, very finely striated transversely, the anterior side very broad, cuticle yellowish and longitudinally rayed.  $2\frac{1}{2}$ .—*Saratoga.*

U. MEDELLINUS. *Lea. on U. 2. (and Tr. Am. 5.) p. 39. t. 12. f. 34.* Elliptical, transverse, rather compressed, inequilateral thinnish, ventral margin subincurved centrally; much narrower and obliquely rounded posteriorly; beaks rather prominent, ligament rather long and slender: cuticle yellowish covered with green rays, nacre white and iridescent: cardinal teeth small, lateral long and somewhat curved.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Vera Cruz.*

U. NOTATUS. *Lea. on U. 2. (Tr. Am. 6.) p. 28. t. 8. f. 22.* Elliptical, compressed, transverse, inequilateral, anteriorly subbiangular, thin, posteriorly obliquely rounded: beaks rather prominent: ligament shortish: cuticle reddish brown, covered with interrupted rays, nacre salmon coloured and iridescent: cardinal teeth small, lateral long and slightly curved.  $1 \dots 1\frac{1}{2}$ .—*Tennessee.*

U. VANUXEMENSIS. *Lea. on U. 2. (and Tr. Am. 6.) 11. f. 31.* Elliptical, transverse, compressed, inequilateral, thick, ventral edge straightish, anterior edge incurved: beaks somewhat prominent: cuticle dark brown and (apparently) rayless, nacre salmon coloured and iridescent: cardinal teeth large, the lateral long and somewhat curved.  $1\frac{1}{2} \dots 1\frac{3}{4}$ .—*Tennessee.*

U. NASHVILLIANUS. *Lea. Trans. Am. Ph. 5. t. 14. f. 43.* Transversely elliptical, thickish, posteriorly rounded and short, anteriorly produced and subacuminated, ventral and ligamental edges little arcuated: beaks slightly elevated and minutely undulated; ligament shortish: cuticle dark brown, obscurely rayed, nacre pearly white: cardinal teeth lamelliform and double in both valves, the lateral nearly straight.  $1\frac{2}{3} \dots 2\frac{1}{2}$ .—*Ohio.*

U. ZIEGLERIANUS. *Lea. on U. 2. (Tr. Am. 6.) p. 32. t. 10. f. 27.* Elliptical transverse, inequilateral, smooth, thickish, somewhat

<sup>1</sup> Add likewise the U. CHILDRENI.—*Gray.*

prominent, with fine undulations at the tip; ligament shortish: cuticle yellow, anteriorly with linear green rays, nacre purple and iridescent; cardinal teeth small, the lateral small and straightish.  $1 \dots 1\frac{1}{2}$ .—*Tennessee*.

U. LIENOSUS. *Conr. in Sil. J.* 25. t. 1. f. 4.—*Con. Mon. U.* t. 49. f. 1. Narrow-elliptical, ventricose, posteriorly thick short and rounded, anteriorly abruptly rounded at the ventral edge (which is little curved and entire) and subangulated at the end: beaks approximate, little elevated and corrugated; concentric lines coarse and prominent; cuticle very dark olive, and obscurely rayed, nacre from bluish white to deep salmon or purple: cardinal teeth oblique, rather compressed and double in both valves.  $2\frac{1}{2}$ .—*R. Alabama*.

U. OBSCURUS. *Lea. on U.* 2. (and *Tr. Am.* 6.) p. 7. t. 3. f. 7. Elliptical, transverse, inequilateral subinflated, thickish, ventral margin and anterior dorsal edge straightish; beaks irregularly undulated: cuticle yellowish brown, with linear darker rays anteriorly, nacre purple and white: cardinal teeth elevated, the lateral larger near their termination.  $1\frac{1}{10} \dots 2$ .—*Tennessee*.

U. DELODONTUS. *Lam.*—U. LACTEOLUS. *Lea. Tr. Am.* 5. t. 8. f. 19. Elliptic, transverse, not thick, subinflated, posteriorly short narrow rounded, angulated anteriorly; beaks rounded, having short radiating folds, ligament shortish: cuticle dark brown and wrinkled, nacre pearly and milk white; cardinal teeth long and double in both valves, the lateral long and separate.  $2 \dots 3\frac{1}{2}$ .—*La Plata*.

U. LAMELLATUS. *Lea. on U.* 2. (and *Tr. Am.* 6.) p. 19. t. 6. f. 16. Subovate, transverse, subinflated, glossy, very thin, dorsal edge straightish, angular at its extremities; posteriorly much narrower and the ventral margin oblique and rounded: umbonal slope with two capillary subparallel raised lines: beaks scarcely prominent, minutely undulated: cuticle dark brown and rayless, nacre bluish: cardinal teeth long, thin, and lamellar, the lateral long thin and nearly straight.  $1\frac{1}{4} \dots 2\frac{1}{2}$ .—*Bengal*.

U. BENGALENSIS. *Lea. on U.* 2. (and *Tr. Am.* 6.) p. 3. t. 2. f. 3. Elliptical, transverse, inequilateral, rather inflated, very thin, dorsal edge angular at both ends, ventral edge subincurved: beaks minutely undulated; cuticle reddish brown, obscurely rayed: nacre purple: cardinal teeth thin and lamellar, the lateral rather long and linear.  $1\frac{1}{10} \dots 2\frac{1}{2}$ .—*Bengal*.

U. CÆRULEUS. *Lea. on U.* 1. p. 105. (and *Tr. Am. Ph.* 4.) t. 13. f. 25.—*Benson*. Narrow elliptical, transverse, inequilateral, subcylindrical, thin, ventral margin centrally straightish, dorsal edge anteriorly straight; beaks rather elevated, rounded, and undulated; cuticle finely wrinkled and bluish green particularly anteriorly, rays very indistinct; anterior slope with small undulations, and two irregular rays; nacre bluish white, pearly and iridescent: cardinal

teeth lamelliform and double in the right valve only, the lateral straight.  $\frac{2}{3}$ ..  $1\frac{1}{2}$ .—*R. Hoogly, Hindostan.*

*U. OLIVARIUS.* *Lea. on U. 1. p. 118. (and Tr. Am. Ph. 4.) t. 16. f. 38.—Benson.* Ovate-oblong, transverse, inequilateral, very thin, pellucid, smooth, anteriorly subattenuated, ventral edge somewhat rounded; beaks slightly elevated, rounded, not undulated; ligament very small, cuticle olive, very smooth, rays obscure, nacre white and pearly: cardinal teeth large erect and lamelliform, lateral short and lamelliform.  $\frac{2}{3}$ ..  $1\frac{1}{2}$ .—*India.*

*U. BATAVUS.* *Lam. 33.—Schroet. Fluss. t. 3. f. 5.—E. t. 248. f. 3.* Ovate, tumid, shaded off from green to yellow, rayed, posterior side very short; anterior obliquely curved, the extremity rounded. *R. Seine, &c.—Thicker and more obtuse at the extremities than Pictorum.*<sup>1</sup>

*U. CUMBERLANDIANUS.* *Lea. on U. 2. (and Tr. Am. 6.) p. 25. t. 7. f. 19.* Elliptical, transverse, inequilateral, thin, ventral edge rounded; beaks somewhat prominent, ligament short; cuticle yellow with numerous subequidistant narrow greenish rays, nacre white and iridescent: cardinal teeth small, lateral long and straight.  $\frac{2}{3}$ ..  $1\frac{1}{2}$ .—*Tennessee.*<sup>2</sup>

*U. VIBEX.* *Conr. N. F. W. S. 31. t. 4. f. 3.* Elliptical, ventricose, thinnish, anteriorly dilated, very oblique and arcuated, posteriorly rounded but angulated on the dorsal edge: ligament margin slightly elevated, umbonal slope rounded: cuticle yellowish olive, clouded with brown, anteriorly with green interrupted linear

<sup>1</sup> Mr. Lea in his synopsis of Uniones, (a work whose outlines are but filled up in the present monograph), gives as synonyms of this deceptive species.

"*U. Batavus* of Fleming, Pfeiffer, Wood, Maton, Dilwyn, Turton—*Pictorum* of Montagu and of Draparnand, *t. 11. f. 3.*—*U. Riparia* and *Gibba* of Pfeiffer.—*U. Sinuatus* and *Planus* of Studer.—*U. Fuscus* of Muhl.—*U. Reniformis*, Schmidt.—*U. Decurvatus*, Rossmäslar.—*U. Fuscus*, Consentaneus and *Amnicus* Zieg."—I am afraid that Mr. Lea is scarcely correct in his ideas of our European Uniones. Assuredly the above synonyms seem to me so strangely united, that I have not ventured to add one iota to the brief description and scanty references of Lamarck. As this shell has been generally considered British, from trusting to the figures in Wood and Turton, it may be as well to observe, that I have reason to believe that the former was copied from Schroeter's *Fluss-conchylien*, *t. 3. f. 4.* (and not from a British shell), whilst the latter is stated by Mr. Gray, to have been delineated from the former.

<sup>2</sup> Add likewise the *U. SMITHII.*—Gray.

rays; nacre bluish white, anteriorly iridescent: cardinal teeth direct, prominent, pyramidal. 2.—*R. Alabama*.

U. MUHLFELDIANUS. *Lea. Tr. Am.* 6. f. 36. p. 41. Elliptical, rather compressed, transverse, inequilateral, thickish, rounded at both ends, ventral and anterior dorsal edge straightish: beaks rather prominent, finely undulated: cuticle yellowish with dark green rays anteriorly, nacre white and iridescent; cardinal teeth rather small and erect, lateral long and erect.  $1\frac{3}{10} \dots 2\frac{3}{10}$ .—*Tennessee*.

U. CRESSERUS. *Lea. on U.* 2. (and *Tr. Am.* 6.) p. 33. t. 10. f. 28. Subelliptical, very transverse, very inequilateral, thickish, ventral edge little rounded and rather sinuated, anterior dorsal edge straightish, anterior edge incurved; beaks rather prominent and undulated at the tip, retuse: cuticle dark green, obscurely rayed: cardinal teeth small and elevated, the lateral obscure; nacre white.  $1\frac{1}{2} \dots 2\frac{1}{10}$ .—*Tennessee*.

U. GLABER. *Lea. on U.* 2. (and *Tr. Am.* 6.) 34. t. p. 10. f. 29. Elliptical, transverse, compressed, smooth and shining, inequilateral, thin; beaks somewhat prominent, with fine nearly parallel undulations at the tip; ligament short: cuticle smooth yellow with numerous fine rays over nearly the whole disc: cardinal teeth small and elevated, the lateral long.  $\frac{4}{5} \dots 1\frac{1}{2}$ .—*Tennessee*.

U. HILDRETHIANUS. *Lea. Trans. Am. Ph.* 5. t. 3. f. 8.—U. AMBIGUA? *Say*. Narrow elliptical, subcylindrical, very transverse, thin, rounded at both ends, ventral edge little arcuated, incurved, subparallel to the dorsal, cuticle dark brown, nacre above brown, below white; ligament long and thin; cardinal teeth single in each valve, no lateral.  $\frac{7}{10} \dots 1\frac{1}{2}$ .—*Ohio*.

U. FABALIS. *Lea. on U.* 1. p. 96. (and *Tr. Am. Ph.* 4.) t. 10. f. 16.—U. CAPILLUS. *Say. Transylv. Jour.*—LAPILLUS: *Say. Am. Conch.* t. 41. Subelliptical, transverse, inequilateral, thick, rounded at both ends; ventral margin incurved in the middle; ligament short; beaks slightly prominent; cuticle dark, with green hair-like undulating rays (especially anteriorly); nacre pearly white and iridescent; cardinal teeth small, the lateral short thick and enlarged anteriorly.  $\frac{1}{2} \dots 1$ .—*Ohio*.

U. PARVUS. *Barnes. Sil. J.* 6.—*Eaton.*—*Conr. Mon. U.* t. 6. f. 1. Oblong-ovate, convex, rounded at the sides, thinnish; beaks slightly elevated and placed at one-fourth the distance from the posterior end; ligament very narrow, and slope distinct and obsoletely ribbed; ventral edge little rounded; cuticle brownish, an obtuse slightly elevated anterior ridge; nacre pearly white and iridescent; the lateral tooth rectilinear, rounded at the end and parallel to the base.  $\frac{3}{4} \dots 1\frac{1}{2}$ .—*Fox River, North America*.

U. GLANS. *Lea. on U.* 1. p. 92. (and *Tr. Am. Ph.* 4.) t. 8. f. 12. Ovate elliptical, transverse, inequilateral, inflated, rather thick, rounded at both ends; ventral edge rounded; beaks some-

what prominent; ligament small; cuticle black or dark brown (sometimes rayed), nacre purple; cardinal teeth rather large and elevated, lateral straight and lamelliform.  $\frac{3}{4}$ ..  $1\frac{3}{4}$ .—*Ohio*.

U. DIVARICATUS. *Lea. Trans. Am. Ph.* 5. t. 9. f. 24. Transversely elliptic, rather compressed, thin, ligamental edge straight and parallel to the ventral edge; beaks with beautiful divaricating folds; ligament rather short and slender; cuticle greenish smooth, nacre white and iridescent; cardinal teeth small, compressed, the lateral long and rather thin.  $\frac{2}{3}$ ..  $1\frac{3}{4}$ .—*Egypt*.

U. FABIA. *D'Orbig. Mag. de Z.* 1835. Ovate-oblong, compressed, thin, smooth, greenish brown, anteriorly subangulate and broad, posteriorly short and rounded; beaks radiated or smooth; nacre bluish white; cardinal tooth thin, lamellar bifid, the lateral elongated and thin.  $\frac{7}{8}$ ..  $1\frac{1}{2}$ .—*S. America*.

U. BURROUGHIANUS. *Lea. Trans. Am. Ph.* 5. t. 10. f. 27. —*D'Orb. in Mag. de Z.* Obovate, transverse, compressed, thickish, anteriorly subbiangular and longer, posterior end dorsally subangulate, obliquely rounded below; beaks with oblique folds and rather prominent; cuticle smooth, dark brown with yellow lines of growth; nacre pearly white and iridescent; cardinal teeth large elevated and lamelliform, the lateral nearly straight.  $1\frac{1}{2}$ ..  $2\frac{1}{2}$ .—*R. Parana. S. America*.

U. DISCUS. *Lea. on U. 2. (Tr. Am. 6.) t. 18. f. 57.* Elliptical, very much compressed, inequilateral, thick, posteriorly rounded, anteriorly much attenuated and biangular; beaks prominent, ligament long and thick; cuticle blackish, nacre purple and iridescent; cardinal teeth large, the lateral long and separate.—*India*.

U. SIMUS. *Lea. on U. 2. (and Tr. Am. 6.) p. 26. t. 8. f. 20.* Ovate, transverse, compressed, inequilateral, obliquely angulated anteriorly, ventral edge not much rounded, thickish, beaks somewhat prominent, ligament shortish; cuticle yellowish and indistinctly rayed, nacre white and iridescent; cardinal teeth small, lateral long and thick. 1..  $1\frac{1}{4}$ .—*Tennessee*.

U. CORRUGATUS. *Lam.* 34.—*MYA C. Muller.*—*Gmel.* 3221.—*D. p.* 52.—*Ch. f.* 22.—*W. t. 2. f.* 31.—*MYA RUGOSA. Gmel.* 3222.—*D. p.* 53.—*Ch. f.* 1649.—*M. NODOSA ? Gmel.*—*SPURIA ? Gmel.*—*U. SPURIA. Lam. (fide Lea.)* Ovate-rhombic, thin, green, the umbones with angularly flexuous sublongitudinal wrinkles.  $1\frac{1}{2}$ .—*Coromandel*.<sup>1</sup>

U. NILOTICUS. *Cail. voy. à Meroe. 2. t. 61. f. 8, 9.*—*Desh.*

<sup>1</sup> I may not venture to differ from such an authority as Mr. Lea, but as the figures of Gmelin's *Mya Rugosa* (*W. t. 2. f. 33.*) and *Nodosa* (*W. t. 2. f. 34.*) differ in many particulars from *Corrugata*, I have given copies of them.

in *Lam.* 6. p. 552. Ovate oblong, transverse, subdepressed, posteriorly obtuse, anteriorly obscurely angulated, striated, dark olive, nacre rosy; cardinal teeth very salient and compressed in one valve, in the other short and bifid. *Senegal and the Nile.*

U. EGYPTIACUS. *Cail. voy. a Meroe.* 2. t. 61. f. 6, 7.—*Desh. in Lam.* 6. p. 353. Oval-oblong, turgid, subinequilateral, thin, anteriorly broad and dilated; cuticle olive rayed with yellow, nacre pink and iridescent; hinge almost linear, with two teeth, the anterior lamella very narrow and acute. *Egypt and Senegal.*

†††† Oblong.

U. BREVIDENS. *Lea. in Am. Ph. Tr.* 4. (1837.) p. 75. t. 6. f. 6. Oval-oblong, subtriangular, transverse, thick, inequilateral, umbonal slope curved; beaks slightly prominent, ligament short, ventral edge subincurved in the middle; cuticle yellow and wrinkled, rays small slightly curved and interrupted; nacre pearly white, cardinal tooth rather small, slightly elevated and rather cleft in one valve, simple and emerging from a pit in the other, lateral teeth short and thick.  $1\frac{1}{2} \dots 1\frac{1}{5}$ .—*Ohio.*

U. TETRALASMUS. *Say. Am. Con.* t. 23. Transversely oblong-elliptic, thinnish, convex, hinge margin parallel to the ventral and subrectilinear; posteriorly very short and rounded, anteriorly sloping obliquely from the hinge margin to the rounded extremity; anterior slope with two impressed lines; beaks little elevated, decorticated, umbonal slope not prominent: inside white, iridescent anteriorly and on the margin; lateral teeth two in each valve.  $3\frac{1}{2}$ .—*New Orleans.*

U. CAMPTODON. *Say. Am. C.* t. 42.—DECLIVIS. *Conr. (fide Lea.)* Transversely oblong-oval, moderately thin, a little compressed, not very inequilateral, blackish or dark brownish, dorsal line sinuated, obtusely angulated at each extremity; the ventral edge incurved in the middle, and rounded at each extremity: anterior slope somewhat compressed, with two distinct compressed lines; umbonal slope not elevated above the level of the disc; beaks with small undulations, little prominent; within milk white, a single rather long oblique undivided primary tooth in each valve, the lateral teeth rather slender towards the tip, a little arcuated.  $2 \dots 3\frac{1}{2}$ .—*New Orleans.*

U. OBESUS. *Lea. on U.* 1. p. 106. (and *Tr. Am. Ph.* 4.) t. 13. f. 26. Ovate-rhomboidal, oblique, inequilateral, inflated, thickish, angular anteriorly, ventral edge little rounded; beaks rather prominent, ligament long and large; cuticle fuscous and much wrinkled, nacre livid white; cardinal teeth elevated and crested, lateral long and curved.  $2 \dots 3\frac{1}{2}$ .—*Virginia.*

U. HOPETONENSIS. *Lea. on U.* 2. (*Tr. Am.* 6.) p. 29. t. 9. f. 24. Suboblong, transverse, inequilateral, compressed, biangular

anteriorly; anterior dorsal edge rather elevated, thickish, flattened at the umbones and sides, carinated; beaks little prominent, undulated at the tip; ligament thin long and straight; cuticle dark brown, obscurely rayed, nacre purple and iridescent; cardinal teeth small, thick; the lateral long and curved.  $1\frac{7}{8} \dots 3\frac{3}{4}$ .—*Near Darien*.

U. ROANOAKENSIS. *Lea. on U. 2. (Tr. Am. 6.) p. 27. t. 8. f. 21.* Oblong, transverse, inequilateral, biangular anteriorly, compressed, thick, ventral and dorsal edges little rounded, flattened on the umbonal slope; ligament very large and long: cuticle dark brown (apparently) rayless, nacre white; cardinal teeth small, the lateral long and slightly curved.  $2\frac{1}{4} \dots 4\frac{1}{8}$ .—*N. Carolina*.

U. JEJUNUS. *Lea. on U. 2. (Tr. Am. 6.) p. 9. t. 4. f. 9.* Oblong, transverse, compressed, thinnish, inequilateral, flattened on the sides, rounded posteriorly, subbiangular anteriorly; ventral edge little rounded, incurved in the middle: beaks compressed, scarcely prominent; ligament thin and long: cuticle very dark brown and much wrinkled, nacre purple or white; cardinal teeth small, the lateral long and straight.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Roanoke*.

U. COMPLANATUS. *Lea. on U. 1. p. 62.*—MYA C. D. p. 51.  
—U. PURPUREUS. *Say & Barnes.*—U. RABISULCATA. *Lam.*—  
U. COARCTATA. *Lam.*—U. PURPURASCENS. *Lam.*—U. RHOMBULA. *Lam.*—U. CARINIFERA. *Lam.*—U. GEORGINA. *Lam.*—  
U. GLABRATA. *Lam.*—SULCIDENS. *Lam.* Oblong ovate, sometimes subrhomboidal or suboval, anteriorly broader and much longer more or less angular, posteriorly rounded, ventral edge little rounded an obtuse ridge from beaks anteriorly, surface with coarse wrinkles of growth, the cuticle tar-coloured or very dark green: nacre dark peach (at times salmon to violet pearl) cardinal teeth deeply striated, pyramidal.  $2 \dots 3\frac{1}{2}$ .—*Massachusetts*.

U. GRIFFITHIANUS. *Lea. Trans. Am. Ph. 5. t. 15. f. 46.* Transversely elongated-elliptic, thickish, spread out, somewhat flattened on the sides, rounded on the umbonal slope, ventral edge little arcuated, inequilateral, beaks small and scarcely elevated; cuticle yellowish with green rays, nacre purple salmon or white: cardinal teeth compressed, the lateral long and curved.  $1\frac{1}{2} \dots 2\frac{3}{8}$ .—*Florida*.<sup>1</sup>

U. ATRATUS. *Lea.*—NAIA A. *Swain.*—U. FRAGILIS. *Swain. in Z. II. 1st ser.* Transversely oval, rounded above and below at both extremities, thin, ventral and dorsal edge arcuated, the former not all incurved: moderately convex, smooth, the cuticle varying from black to olive green, nacre purplish near the umbones: in one valve two short obtuse and nearly obsolete cardinal teeth, a single rather sharper one in the other.  $2 \dots 3$ .—*N. America.*—*Liga-*

<sup>1</sup> Add likewise the NAIA AURATA of Swainson.



mental edge in the young, nearly straight and subangulated at the extremities.

U. CONFERTUS. *Lea. Trans. Am. Ph. 5. t. 16. f. 47.* Trapezoidal, transverse, inequilateral, inflated, thickish; beaks slightly elevated and transversely wrinkled, umbones much swollen, ligament rather short and thin; cuticle dark brown, shining, nacre purple or salmon; cardinal teeth compressed and double in both valves, the lateral long and curved.  $1\frac{3}{10} \dots 2\frac{2}{3}$ .—*S. Carolina*.<sup>1</sup>

U. FULVUS. *Lea. Tr. Am. Ph. 5. t. 13. f. 39.* ICTERINUS. *Con.* Narrow elliptical, transverse, inequilateral thinnish, subinflated, rounded posteriorly, angulated anteriorly, ventral edge entire, dorsal straight, umbonal slope rounded, beaks slightly elevated; cuticle yellow and yellowish brown, nacre salmon: cardinal teeth oblique, the lateral somewhat curved.  $\frac{9}{10} \dots 1\frac{1}{2}$ .—*S. Carolina*.

U. CONGARÆUS. *Lea. on U. 1. p. 82. (and Tr. Am. Ph. 4.) t. 6. f. 4.* Elliptico-rhomboidal, transverse, inequilateral, thin, somewhat flattened at the sides, anteriorly slightly sinuated, the slope and beaks with slight undulations; ventral edge little rounded; ligament short: cuticle yellow and yellowish brown, with numerous green rays: nacre satinlike and iridescent: cardinal tooth oblique and compressed, the lateral long and enlarged anteriorly.  $1 \dots 1\frac{1}{2}$ .—*S. Carolina*.

U. DECLIVIS. *Say. Am. C. t. 35.*—U. GEOMETRICUS. *Say.* Transverse, thickish, posteriorly short and rounded, ligamental edge rectilinear very slightly (if at all) elevated and forming a sharp angle with the anterior edge which runs down obliquely to the entire and but slightly rounded ventral edge: umbonal slope not elevated; surface deeply wrinkled: inside just tinged with purplish; cardinal teeth oblique, the lateral distant, rectilinear, oblique.  $2\frac{1}{2}$ .—*N. America*.

U. BLANDINGIANUS. *Lea. Tr. Am. Ph. 5. t. 15. f. 44.* Subtrapezoidal, transverse, very inequilateral, thin: beaks somewhat prominent: cuticle fuscous, wrinkled, nacre dull purple: cardinal teeth compressed, the lateral long and curved.  $1\frac{1}{2} \dots 2\frac{1}{10}$ .—*Florida*.

U. DEPRESSUS. *Lam. 38.*—*D'Orb.—Lesson. voy. de Coq. t. 15. f. 55?* Ovate-oblong, depressed, thin, rounded at the extremities of the sides: cuticle brown, nacre bluish. 2.—*New Holland*.

U. ANGUSTUS. *Lam. 42.*—*an List. t. 147. f. 3.* Transversely oblong, narrow, subsinuated, anteriorly with two obsolete angles, extremities of the sides rounded; cuticle yellowish brown, slightly striated longitudinally on the depression in the middle.  $2\frac{2}{3}$ .<sup>2</sup>

<sup>1</sup> Add likewise the U. PALIATUS of Ravenel's letter, and the U. WATERENSIS of Lea, the Ravenili of Conrad.

<sup>2</sup> Add likewise the U. MODESTUS of Ferussac.

U. LITTORALIS. *Lam.* 25.—CRASSUS. *Schr. F.* 2. f. 2.—RHOMBOIDEA. *Schr.* 2. f. 3.—BREVIALIS, SEMIRUGATA, and NANA. *Lam.* 14, 16, & 17. (*fide Lea*).—INCURVUS. *Lea. on U.* 1. p. 167. t. 13. f. 27. Transverse, oval, thick, dark brown, inequilateral, transversely striated, posteriorly rounded, anteriorly produced, ligamental edge sloping, ventral edge little arcuated, sub-incurved: anterior slope with a marginal groove on each side: beaks wrinkled: cardinal teeth thick, conical, dentato-serrated, the lateral thick.  $2\frac{1}{2}$ .—*France, &c.*

++++ Subrotund.

U. CIRCULUS. *Lea. Tr. Am. Ph.* 3. t. 9. f. 14.—*Eat.*—MYA ROTUNDA?—*Wood.* Circular, ventricose, subequilateral, thick, transversely wrinkled; beaks rather elevated and somewhat recurved; ligament short and thick; cuticle dark brown becoming light yellowish brown anteriorly, shining and satinlike, nacre pearly white and iridescent: teeth large. *Diameter*,  $1\frac{1}{2}$ .—*Ohio, &c.*

U. LENS. *Lea. on U.* 1. p. 90. (*and Tr. Am. Ph.* 4.) t. 8. f. 10. Lenticular, broader than long, subventricose, equilateral, thickish, beaks slightly prominent, undulated at the tip, ligament short and thick: cuticle smooth brown but anteriorly yellowish, nacre white rarely rosy: cardinal teeth large, the lateral short and straightish.  $\frac{2}{5}$ ...  $1\frac{1}{2}$ .—*Ohio.*

U. RUBELLUS. *Conr. N. F. W. S.* p. 38. t. 6. f. 2. Suborbicular, transverse, ventricose, thick, subequilateral, umbones prominent, umbonal slope rounded, margined before and behind by a faint angle; beaks eroded, slightly prominent; cuticle reddish brown, nacre pink or purplish: cardinal teeth direct.—*R. Alabama.*

U. MASONI. *Conr. N. F. W. S.* p. 34. t. 5. f. 2.—*Con. Mon. U. t.* 12. f. 2. Transverse, suborbicular, discs slightly flattened; umbones broad prominent, carinated behind: beaks slightly prominent: umbonal slope straight and angulated, ligament slope flattened and broad: cuticle olive, clouded with brown and polished, nacre bluish white: cardinal teeth prominent, compressed very oblique:  $\frac{1}{2}$ .—*R. Savannah, N. America.*

U. ROTUNDATUS. *Lam.*—SUBORBICULATA. *Lam. & Bl.*—U. GLEBULUS. *Say. Am. Conch. t.* 34.—SUBGLOBOSUS. *Lea. Tr. Am. Ph.* 5. t. 2. f. 3. Transverse, obovate, inflated, thick, posteriorly rounded and shorter, anteriorly subangulated, ventral edge arcuated and somewhat sinuated anteriorly; beaks slightly prominent, rounded; umbonal slope carinate, ligament thick and shortish: cuticle dark brown or black, nacre pearly pink; cardinal teeth wide and striated, the lateral somewhat curved.  $2\frac{1}{2}$ ...  $1\frac{1}{10}$ .—*Louisiana.*

U. PARANENSIS. *Lea. Tr. Am. Ph.* 5. t. 14. f. 42.—U. SOLSIANA.—*D'Orb. in Mag. de Z.* Subrotund, inequilateral, compressed, thickish, umbonal slope flattened; beaks rather elevated, longitudinally folded and retuse, ligament thin; cuticle wrinkled, shining, greenish becoming brown towards the margin, with very obscure curved rays which sweep from the beak towards the posterior side, nacre pearly white and iridescent: cardinal teeth recurved, double in both valves, the lateral rather long and curved. 3 . . 3½.—*R. Parana.*

U. MEMBRANACEA. *Lea.*—MYTILUS M. *Maton.*—*Lin. Tr.* 10. t. 24. f. 11, 12.—U. MATONIANA. *D'Orbig. S. Am.* t. 71. f. 1, 2. Roundish, subinflated, posteriorly shorter and rounded, anteriorly angulated, dorsal edge straight, very thin, smoothish, greenish, rufous, with very small ribs diverging from the beaks, inside bluish or pink: cardinal tooth thin straight and solitary, the lateral tooth anteriorly very long and elevated. 2 . . 2½.—*S. America.*

U. VARIABILIS. *Lea.*—MYA V. *Maton in Lin. Trans.* 10. t. 24. f. 4, 5, 6, 7.—*W.* t. 3. f. 38.—*D.* p. 53.—U. ROTUNDUS. *Wagn. in Spix. Braz.* t. 26. f. 3, 4. Subrhombic gibbous, the umbones longitudinally wrinkled; transversely striated, the wrinkles gradually disappearing, cuticle greenish brown, dorsal edge nearly straight, and subangulated at its extremities, ventral edge posteriorly very obliquely rounded; nacre bluish: hinge with two teeth diverging at the apex and inserted in linear receptacles. 1 . . 1—*S. America.*

U. PERSONATUS. *Say.*—U. CAPILLARIS. *Lea. Trans. Am. Ph.* 5. t. 2. f. 2. Obtusely subquadrate, broader than long, ventricose, thickish, subangular and longer anteriorly: beaks thick and elevated, ligament short and thick; cuticle dark and finely wrinkled, smoother towards the beaks, rays numerous capillary and spreading, nacre pearly white and iridescent: cardinal teeth much elevated, the lateral lamellar and inclined to curve upwards. 1½ . . 1½.—*Ohio.*

U. RETUSUS. *Lam.*—*Conr. Mon. U.* t. 8.—TORSIA. *Raf. in Ann. de Sc. Phy.* 5. t. 82. f. 1, 2, 3.—*Eaton.* Obtusely subtriangular, ventricose, with concentric furrows: beaks subcentral, retuse, umbo very prominent and leaning posteriorly; ligament long and prominent; umbonal slope rounded and undefined; posterior and ventral edges regularly rounded; anterior side with a slight furrow; ligamental edge curved and very oblique: within dark purple margined with white: cuticle olive. 2½ . . 2—*N. America.*

U. EBENUS. *Lea. Tr. Am. Ph.* 4. t. 9. f. 14.—MYTILOIDES. *Conr. (not Raf.)* Obliquely obovate, inequilateral, very ventricose, very thick; beaks nearly terminal and much elevated, ligament

rather short and thick: cuticle blackish brown before the beaks and at their tip, on the second growth yellow, nacre pearly white: cardinal teeth large, lateral large and curved.  $1\frac{1}{2} \dots 1\frac{3}{4}$ .—*Ohio*.

*U. MACULATUS.* *Conr. N. F. W. S. p. 30. t. 4. f. 4.* Subtriangular, compressed, thickish; cuticle much wrinkled except on the smooth umbones, brown olive with a few very broad and narrow intervening interrupted green rays; a slight broad and oblique furrow from the prominent beaks to the base: umbonal slope subangulated, behind which the shell is cuneiform, ligament edge oblique, rectilinear, anterior edge obliquely subtruncated: cardinal teeth nearly transverse, subcompressed: nacre very white and iridescent.—*Tennessee*.

*U. KIRKLANDIANUS.* *Lea. Trans. Am. Ph. 5. t. 14. f. 41.* Rounded-subquadrate, broader than long, thick, compressed, anterior and ligamental edges little arcuated; beaks somewhat elevated, ligament thick and rather short; cuticle wrinkled, dark brown but yellowish near the beaks, with interrupted rays not reaching the well rounded ventral edge, nacre pearly white and iridescent: cardinal teeth thickish, the lateral short and slightly curved.  $2 \dots 2\frac{3}{4}$ .—*Ohio*.

*U. SUBROTUNDUS.* *Lea. Tr. Am. Ph. 4. t. 18. f. 45.*—*POLITUS?* *Say.*—Suborbicular, subventricose, thick, subequilateral, beaks thick and elevated, ligament thick and shortish; cuticle yellow and smooth towards the beaks, becoming brown and finely wrinkled towards the margin, with interrupted rays about the umbones, nacre white and iridescent: cardinal teeth thick, the lateral short and slightly curved. *Diameter*,  $1\frac{1}{2}$ .—*Ohio*.

*U. INFUCATUS.* *Conr. F. N. W. S. p. 45. t. 3. f. 2.* Transversely obovate, compressed; anteriorly dilated, the margins slightly oblique, obtusely rounded or subangulated at its extremity; umbones wide, not prominent, beaks greatly eroded; umbonal slope subangulated and hardly curved: cuticle black, nacre pearly white: cardinal teeth direct, pyramidal.—*Georgia in America*.

*U. COCCINEUS.* *Lea. on U. 2. (and Tr. Am. 6.) p. 12. t. 5. f. 12.*—*Conr. Mon. U. t. 13. f. 1.*—*CATILLUS.* *Conr. Mon. U. t. 13. f. 2.* Subtriangular, oblique and slightly compressed, thicker posteriorly, posterior dorsal edge very short and sharply angulated; beaks rather elevated retuse, with one or two undulations; ligament rather long and curved: cuticle dark reddish brown, nacre bright red: cardinal teeth thick, the lateral thick and somewhat curved.  $2 \dots 2\frac{1}{2}$ .—*Ohio*.

+++++ *Wide.*

*U. SHEPARDIANUS.* *Lea. Trans. Am. Ph. 5. t. 13. f. 38.*—Very elongated transversely, thickish, short and rounded poste-

riorly, produced and subcuneiform anteriorly, ligamental edge straightish, ventral strongly incurved, sides and umbones flattened; umbonal slope elevated, beaks small, ligament thin and long; cuticle blackish brown, (sometimes with obsolete rays), nacre purple and iridescent: cardinal teeth oblique, single in one valve, double in the other, the lateral very long and straight.  $1\frac{1}{2}$  . . 5.—*Georgia, N. America.*

U. FOLLICULATUS. *Lea. on U. 2. p. 38. (and Tr. Am. 6.) t. 11. f. 33.* Transversely elongated, very narrow, rather thin, very inequilateral, rather compressed, flattened at the sides, rounded posteriorly, subbiangular anteriorly, ventral edge slightly incurved in the middle; beaks scarcely prominent; cuticle very dark brown, nacre purple and iridescent: cardinal teeth small, the lateral long and somewhat curved.  $\frac{4}{5}$  . .  $2\frac{2}{3}$ .—*R. Savannah.*

U. ~~FACTUS~~. *Lam.*—PRÆLONGUS. *Barnes in Sil. J. 6.—Hild.—MYA PRÆLONGA. Wood. S. f. 11.* Much elongated transversely, narrow, thick, tumid, the beaks flat, rounded at both ends, but anteriorly attenuated and produced, posteriorly short, ventral edge little rounded (incurved in the old): cuticle blackish brown with fine interrupted wrinkles in longitudinal rows, (in the young smooth glabrous and rayed with yellowish olive): nacre purplish, the lateral tooth long and thin.  $2\frac{1}{10}$  . .  $6\frac{2}{3}$ .—*N. America.*

U. DEHISCENS. *Say. Am. Con. t. 24.*—ORIENS. *Lea. on U. 1. p. 83. (and Tr. Am. Ph. 4.) t. 6. f. 5.* Elongated oblong, transverse inequilateral, compressed, very thin, anteriorly attenuated, ventrally not incurved, little rounded; beaks scarcely prominent and refuse, ligament linear: cuticle yellowish with oblique interrupted green rays, nacre bluish white and iridescent, purple under the beaks: cardinal teeth small and imperfect, lateral undivided and imperfect.  $1\frac{1}{10}$  . .  $2\frac{1}{2}$ .—*Ohio.*

U. ANGUSTATUS. *Lea. on U. 1. p. 124. (and Tr. Am. Ph. 4.) t. 17. f. 43.* Transversely elongated oblong, angulated anteriorly and its dorsal edge straightish, the ventral incurved in the middle; thin rather compressed, the beaks slightly elevated and undulated at the tips; cuticle reddish brown with the rays obsolete, nacre dull purple: cardinal teeth elevated and compressed, lateral long and nearly straight.  $1\frac{1}{10}$  . .  $2\frac{1}{2}$ .—*S. Carolina.*

U. LANCEOLATUS. *Lea. Tr. Am. Ph. 3. t. 3. f. 2.* Transversely elongated, compressed, attenuated and subangular anteriorly, thin, ventral edge not incurved, beaks scarcely prominent; cuticle lemon or olive yellow and glabrous, nacre salmon colour and iridescent: cardinal tooth sharp and oblique.  $\frac{7}{10}$  . .  $1\frac{7}{10}$ .—*Tarborough.*

U. ANODONTOIDES. *Lea. on U. 1. p. 91. (and Tr. Am. Ph. 4.) t. 8. f. 11.*—U. TERES. *Conr.* Narrow elliptical, transverse, inequilateral, inflated, thickish, posteriorly rounded, anteriorly subat-

tenuated; beaks slightly prominent, ligament long narrow and nearly straight: cuticle yellowish, very smooth and shining, anterior slope fuscous, nacre pale salmon or white; cardinal teeth double in both valves and very erect; the lateral long, slightly curved and separate.  $1\frac{2}{5} \dots 4\frac{1}{5}$ .—*Mississippi*.

U. PARALLELOPIPEDON. *Lea. Trans. Am. Ph. 5. t. 8. f. 20.—D'Orb. in Mag. de Z.* Oblong, transverse, subcylindrical, thickish, dorsal and ventral edges parallel, posteriorly short and obtuse, anteriorly inflated and obliquely angulated dorsally; ligament long and thin, umbones flattened, umbonal slope carinated; beaks somewhat elevated, retuse; cuticle wrinkled and almost black, nacre pearly white and iridescent; cardinal teeth oblique, crested, the lateral long and straight.  $1\frac{1}{2} \dots 2\frac{7}{10}$ .—*R. Parana, South America*.

U. PLATYRRHINCHUS. *Rossm. f. 130.* Transverse, elongated, wedge-shaped, inequilateral, anteriorly produced in a compressed beak which points downwards, ligamental edge very long, very short and rounded posteriorly: the umbones tumid; olive with brown zones: cardinal teeth very compressed, bladed. 3.—*Germany*.<sup>1</sup>

U. TUMIDUS. *Retz.\*—Rossm. f. 70, 202, 3, 4.—MYA OVATA. Don. t. 122.—D. p. 50.—W. t. 2. f. 27.—MYSCA SOLIDA. Turt. B. t. 16. f. 2. & Man. f. 13.—(U. NODULOSA. Lam. fide Lea.)* Transverse, inequilateral, ovate, elongated, the anterior side wedge-shaped tumid produced and attenuated, thick, brown, ventral edge arcuated; umbones prominent and rugose; posterior teeth thick, high, triangular, strong, left anterior strong: nacre white, (rarely pale salmon,) the young with irregular concentric nodulose ridges round the umbones. *Germany, &c.*

U. PICTORUM.\* *Lam. 32.—Drap. t. 11. f. 4.—MYA P. Lin. 1112. D. p. 49.—W. t. 2. f. 26.—MYSCA P. Turt. Man. f. 11.—U. ROSTRATA. Lam. 31.—U. MANCA. Lam. 43.—U. TURTONI. Payraud.—CAPIGLIOLO. Payr.—ELONGATULA. Pfeif. t. 8. f. 5, 6.* Oval-oblong, ventricose, anteriorly produced into a bluntly truncated beak, yellowish green, brownish zoned, greenish anteriorly, dorsal edge nearly straight, ventral rather retuse; hinge teeth very much compressed, arched and crenated, anterior teeth of the left valve small or evanescent; nacre white. 3.—*Europe*.

U. ELONGATUS. *Pfeif.*<sup>2</sup>

U. PRODUCTUS. *Conr. Mon. U. t. 14. f. 1. p. 31.* Narrow-elliptical, rather compressed, posteriorly very short and rounded (the hinge subterminal,) anteriorly produced and obtusely acuminate

<sup>1</sup> Add likewise the U. CAILLAUDI of Ferussac.

<sup>2</sup> I find no species of this name in Pfeiffer. His ELONGATULUS (*fide Gray*,) is but a variety of PICTORUM.

ligamental edge parallel to the line of the ventral which is scarcely arcuated and subincurved in the middle; ridges of the umbonal slope obtuse, beaks not raised above the dorsal line: cuticle brown; inside purplish; teeth thick, the cardinal direct.  $1 \dots 2\frac{1}{2}$ .—*R. Savannah, N. America.*

*U. NASUTUS.* *Say. En. Am. Nic.—Barnes.—Swain. Zool. II. 1st Ser.—Lis. t. 151. f. 6.—MYA NASUTA. Wood. S. t. 1. f. 4.* Elongated-oblong, transverse, posteriorly short and rounded, anteriorly very produced and obtusely acuminate; ligamental edge straight: thin, compressed, horn-coloured brown or olive (sometimes obscurely rayed with green) nacre bluish white: teeth crenated.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Delaware.*

*U. FISHERIANUS.* *Lea. Tr. Am. 6. t. 4. f. 8.* Transversely elongated, acutely angular anteriorly, very short and rounded posteriorly, ventral edge not incurved, compressed and thin; beaks and umbones flattened, ligament thin and short: cuticle dark brown and smooth: nacre purple; cardinal teeth lamellar, the lateral long and somewhat curved.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*R. Chester, North America.*

*U. JAYENSIS.* *Lea. on U. 2. (and Tr. Am. 6.) p. 28. t. 9. f. 23.* Narrow-elliptical, transverse, very inequilateral, anteriorly subangular, thin, subcarinate, ventral edge little rounded, beaks somewhat prominent, ligament rather long; cuticle brown and (apparently) rayless, nacre purple; cardinal teeth compressed, the lateral long and straight.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*Florida.*

*U. LUGUBRIS.* *Lea. (Tr. Am. Ph. 6.) t. 9. f. 25.* Elliptical, transverse, somewhat inflated, inequilateral, anteriorly biangular, posteriorly rounded, thickish, ventral edge little rounded, the beaks rather prominent, ligament thin and shortish: cuticle nearly black, (apparently rayless); nacre purple; cardinal teeth compressed, lateral longish and somewhat curved.  $1\frac{3}{4} \dots 2\frac{1}{2}$ .—*Near Darien.*

*U. MARGINALIS.* *Lam. 41.—E. t. 247. f. 1.* Ovate-oblong, transverse, subrhombic, thin, brown with concentric yellow or tawny bands towards the margin; inside bluish, cardinal tooth small and compressed. 3.—*Bengal.*<sup>1</sup>

*U. IRIS.* *Lea. Tr. Am. Ph. 3. t. 11. f. 18.—U. NEBULOSUS. Conr.* Narrow elliptical, inequilateral, subventricose, thin, rounded at both ends, beaks slightly prominent: ligament rather long and thin; cuticle yellowish green with numerous narrow rays, nacre bluish white: cardinal teeth double in the left valve, subbifid in the right, small and erect, the lateral long and thin.  $\frac{2}{3} \dots 1\frac{1}{2}$ .—*Ohio.*

*U. TENUISSIMUS.* *Lea.—SYMPHONOTA T. Lea. Tr. Am. Ph. 3. t. 11. f. 21.—PURPURASCENS. Swain.—U. VELUM. Say.* Narrow-elliptical, inequilateral, transversely wrinkled, compressed,

<sup>1</sup> *U. ANODONTINA.* *Lam. 47.* is the same species, *fide Lea.*

very thin and fragile, obliquely rounded posteriorly : the dorsal edge connate and anteriorly rather elevated, ventral edge little rounded and not incurved ; beaks depressed, but pointed ; ligament concealed ; cuticle yellow, finely and obliquely rayed with green, nacre bluish white and purple, iridescent ; cardinal tooth a small lobe, lateral teeth acicular and single in both valves.  $2\frac{1}{2} \dots 2\frac{1}{2}$ .—*Ohio*.

U. BILINEATUS. *Benson*.—SYMPHONOTA. B. *Lea. on U.* 1. p. 108. (and *Tr. Am. Ph.* 4.) t. 11. f. 19. Subelliptical, transverse, inequilateral, compressed, very thin, dorsal edge angulated at both ends and anteriorly elevated and connate ; ventral edge rounded and entire ; beaks very little elevated, concentrically undulated, with two elevated lines running to the anterior margin ; cuticle glossy greenish yellow and darker on the anterior slope ; nacre slightly salmon-coloured ; cardinal teeth lamelliform and double in the right valve only, the lateral straight.  $1\frac{7}{10} \dots 1\frac{3}{10}$ .—*R. Hoogly, Hindostan*.

U. CORRIANUS. *Lea. Trans. Am. Ph.* 5. t. 9. f. 25. Narrow elliptical, very transverse, very thin, very inequilateral, dorsal and ventral edges subparallel straightish and entire, obtusely acuminate anteriorly, beaks scarcely prominent, ligament long and slender ; cuticle smooth, rayless, dark brown, nacre pearly white and iridescent ; cardinal teeth thin and bladed, the lateral long thin and nearly straight.  $1 \dots 2\frac{1}{10}$ .—*India*.

U. PHASEOLUS. *Hild. in Sil. J.* 14. p. 283.—*Eaton. in Transylv. J. of Med.* 1831.—U. PLANULATUS. *Lea. on U.* 1. p. 45. and *Tr. Am. Ph.* 3. Ovate-elliptical, transverse, inequilateral, rounded at both ends, peculiarly flattened over the umbones, thick ; beaks slightly prominent and decorticated ; ligament little prominent ; cuticle wrinkled ; yellowish brown, marked with square spots disposed in rays, nacre bluish white : cardinal tooth small, the lateral large thick and curved.  $1\frac{2}{5} \dots 2\frac{1}{2}$ .—*Ohio*.

U. ARCUS. *Conr. Sil. J.* 25. t. 1. f. 8. Narrow-elliptical, thick, ponderous, transverse, posteriorly short and rounded, anteriorly produced and attenuated, ventral edge little arcuated and incurved ; dorsal edge forming an arched curve scarcely interrupted by the beaks ; cuticle olive and wrinkled, nacre pearly white ; cardinal teeth thick, pyramidal and distant from the lateral. 2.—*R. Alabama. North America*.

U. ARCTATUS. *Conr. Sil. J.* 25. t. 1. f. 9. Narrow-elliptical, elongated, much compressed, slightly contracted from the depressed beaks to the base, anteriorly much produced and subangulated at the end, cuticle very dark olive, nacre bluish white : ventral edge incurved in the middle, but little arcuated ; cardinal teeth disposed to be single in both valves, the lateral compressed and a little prominent. 2.—*R. Alabama*.

U. GIBBOSUS. *Barnes Sil. J.* 6. t. 11. f. 12.—*Eat. in Tr. Jour.* 1831.—*Hild. in Sil. J.* 14.—U. MUCRONATUS. *Barnes*.—



**U. NASUTA.** *Lam.*—**U. DILATATUS.** *Conr.* Transversely elongated, heavy, gibbous, anteriorly rapidly attenuated and produced, posteriorly narrow, rounded, ventral edge little rounded; beaks flat; cuticle blackish brown finely striated and deeply wrinkled transversely, nacre purplish, teeth crenate, the lateral rough, very thick, incurved.  $1\frac{2}{3}$  .. 4.—*N. America.*

**U. ARCTIOR.** *Lea. on U. 2. (and Tr. Am. 6.) p. 10. t. 4. f. 10.* Narrow elliptical, transverse, obliquely rounded posteriorly, attenuated and subangular anteriorly, flattened on the sides, thinish, the beaks compressed and undulated, ligament rather long and slender; cuticle dark brown and wrinkled, nacre white or salmon colored; cardinal teeth small, the lateral long. *Ohio.*

**U. PATAGONICUS.** *D'Orb. S. Am. t. 70. f. 1. to 4.* Oblong, compressed, thickish, smooth or strigillated, blackish or yellowish brown; posteriorly very short and rounded, anteriorly produced and attenuated at the rounded extremity, ligamental edge nearly straight and long, cardinal tooth thick and crenulated, the lateral very elongated, inside bluish white or pink.  $1\frac{1}{2}$  ..  $3\frac{1}{2}$ .—*Patagonia.*

**U. VAUGHANIANUS.** *Lea. on U. 2. (and Tr. Am. 6.) p. 5. t. 3. f. 5.*—**CAROLINENSIS.** *Rav.* Transversely ovate, somewhat inflated, rather thin, enlarged towards the anterior ventral margin, before which it is subincurved, anterior side obtusely acuminate, its dorsal edge nearly straight; beaks scarcely prominent, cuticle blackish, obscurely rayed anteriorly, nacre salmon coloured: cardinal teeth small and erect, the lateral straight.  $1\frac{1}{2}$  .. 2.—*S. Carolina.*

† † † † † † † † *Obovate.*

**U. PURPURATUS.** *Lam. 6.*—**ATER.** *Lea. on U. (Tr. Am. 3.) t. 7. f. 9.*—**U. LUGUBRIS.** *Say. Am. C. t. 43.*—**U. POULSONI.** *Conr.* Transversely ovate, inequilateral, much inflated, much broader and obtusely truncated anteriorly, the ventral edge little rounded, anterior dorsal edge rather elevated; thick, the beaks slightly projecting and decorticated; cuticle black, wrinkled transversely, nacre rose colour; cardinal teeth erect and crestlike, the lateral granulated and straight. 3 ..  $4\frac{1}{2}$ .—*Mississippi.*

**U. RHOMBEUS.** *Wagn. Test. Braz. t. 28. f. 1, 2.* Rounded-ovate, oblique, anteriorly dilated, and narrowed posteriorly, thick, transversely striated or grooved, rounded at both ends, dorsal edge more arcuated than the ventral; beaks depressed and decorticated, cuticle brown, nacre bluish white: cardinal tooth thick, compressed, substrate, bifid.  $2\frac{1}{2}$  .. 3.—*Brazil.*

**U. CUPRINUS.** *Lea. on U. 1. (Tr. Am. 4.) t. 12. f. 24.*—**METALLICUS.**—*Say.* Ovate, transverse, inequilateral, inflated, thin, rounded at both ends, broader anteriorly, the ventral margin little rounded and much incurved in the middle; the beaks small, pointed, with concentric undulations, ligament long and lanceolate: cuticle

reddish brown and wrinkled; cardinal teeth small, lateral thin and lamellar.  $1\frac{1}{10} \dots 2\frac{1}{2}$ .—*Mexico*.

U. MODIOLIFORMIS. *Lea. Tr. Am. Ph.* 5. t. 13. f. 40.—

U. DELUMBIS. *Conr.* Elongated-ovate, very thin, inflated, transverse, rounded at both ends, very narrow and short posteriorly; dilated anteriorly; beaks small, ligament rather long and thin; cuticle brown and shining, rays indistinct, nacre slightly purple, very iridescent: cardinal teeth small, compressed, the lateral long and curved.  $1\frac{1}{2} \dots 2\frac{1}{10}$ .—*S. Carolina*.

U. TENERUS. *Rave.*—TENEBROSUS. *Conr. F. W. S. p.* 42. t. 7. f. 1. Elliptical, ventricose, thickish posteriorly, beaks prominent, anteriorly dilated, the edge descending oblique and rectilinear from the ligament, and subtruncated at the extremity, ventral edge simple and little rounded; cuticle olivaceous with linear rays: the margins dark brown, nacre iridescent bluish or pink, teeth moderately thick.—*Virginia*.

U. TAPPANIANUS. *Lea. on U. 2. p.* 62. t. 17. f. 55. Ovate, rather inflated, inequilateral, thin, anteriorly dilated, ventral margin subincurved, umbonal slope rounded and inflated; beaks somewhat prominent, with double undulations, ligament slender and shortish; cuticle yellowish brown, with dark rays and the border dark ochre-brown, nacre somewhat salmon-coloured: cardinal teeth compressed and curved, lateral thin.  $1\frac{1}{10} \dots 2$ .—*Hollidaysburg*.

U. CONTRADENS. *Lea. on U. 2. p.* 75. t. 18. f. 58. Ovate, rather inflated, inequilateral, thin, smooth, ventrally and posteriorly rounded, obtusely angulated anteriorly, and the dorsal edge elevated; beaks rather prominent and undulated, ligament thin and longish: cuticle yellowish green becoming green on the anterior slope, nacre white and iridescent: cardinal teeth linear, the double one in the right valve, the lateral thin and somewhat curved.  $1\frac{1}{10} \dots 1\frac{2}{10}$ .

U. STRAMINEUS. *Conr. in Sil. J.* 25. t. 1. f. 6. Suboval, convex, anteriorly longer, wider and rounded above and below, ventral edge incurved in the middle, beaks slightly prominent, with irregular undulations, umbones convex; concentric lines remarkably coarse and prominent: cuticle straw colour, rayed only on the anterior slope, nacre pearly white and iridescent; cardinal teeth double in both valves and subcompressed.  $2\frac{1}{2}$ .—*R. Alabama*.

†††††††††† *Arcuated.*

U. CRASSISSIMUS. *Fer.*—SINUATA. *Lam.* 1.—*Desh. (not Pfeif. nor Blainv.)—Drap. p.* 132. t. 10. f. 17. to 19.—*E. t.* 248. f. 1.—*Rossm. f.* 195. Ovate-oblong, ponderous, thick, dark brown, breadth about twice the length, very inequilateral, posteriorly rounded, anteriorly obliquely and obtusely subtruncated, ventral edge retuse, dorsal arcuated: cardinal teeth thick, the lateral

lamellæ thick and slightly exserted, ligamental sinus large and oval. 2..4—*Rhine, Loire, &c.*

U. MONODONTUS. *Say. Am. C. t. 6 — Eat. in Tr. Jour. Med.* 1831. — U. SOLENIFORMIS. *Lea. on U. l. p. 97.* Elongated, transverse, thin, inequilateral, compressed, rounded and sloping from the beaks at both ends, ventral margin strongly incurved in the middle; the beaks slightly prominent: cuticle very dark brown and wrinkled, the nacre bluish white and iridescent: cardinal tooth a simple small tubercle in both valves, the lateral long straight and very imperfect.  $1\frac{1}{10} \dots 4\frac{3}{10}$ . — *Ohio.*

U. EMARGINATUS. *Lea. Trans. Am. Ph. 5. t. 9. f. 22.* Transversely elongated-oblong, thickish rounded and very short posteriorly, anteriorly obtusely subbiangulated, ligamental edge straightish, the ventral strongly incurved in the middle and compressed; beaks rather elevated and undulated at the tip: ligament long and thin, cuticle greenish yellow, becoming green on the anterior slope, nacre pearly white and iridescent: cardinal teeth small oblique and double in both valves, the lateral long and slightly curved.  $1\frac{3}{10} \dots 2\frac{1}{2}$ .

#### DIVISION B.

*Having one cardinal tooth.*

##### SECTION A.—Plicate.

U. COMPLANATA.—ALASMODONTA C. *Barnes & Hild.* — SYMPHONOTA C. *Lea. on U. l. p. 62.* Triangular-ovate, inequilateral, transversely wrinkled, compressed, thick; anterior dorsal edge winged connate and obscurely undulated at right angles to the wrinkles: the beaks compressed and scarcely projecting, undulated, the ligament concealed with an oblique callous plane under it: cuticle dark brown, nacre white and iridescent: a large cardinal tooth in each valve. 3..5.—*Ohio, &c.*

U. CONFRAGOSA.—ALASMODONTA C. *Say. Am. Con. t. 21.* Transversely suboval, dark olive or blackish, inequilateral, anterior edge forming an angle with the scarcely sloping ligamental one; convex, with oblique irregular abbreviated undulations not directed towards the beak, and numerous more or less abbreviated, slightly raised lines from the umbo becoming obsolete towards the base, those in front divaricating towards the hinge margin: beak with a groove and a double series of three or four tubercles: inside white margined with opaque whitish or violaceous.  $3\frac{1}{4}$ . — *N. America.*

U. ARCULA.—MARG. A. *Lea. on U. 2. p. 71. t. 22. f. 69.* Triangular, very inflated, very thin, with about eight transverse curved folds, dorsal edge much sinuated and angulated posteriorly: ventral edge little rounded and not incurved, the umbones very

large, the umbonal slope acutely carinate, the anterior slope very much flattened, having an indistinct furrow along the edge of the carina, cuticle dark green, with numerous green rays over the whole surface, nacre bluish: teeth lamellar and irregular.—*Georgia in America*.

U. MARGINATA.—MARG. M. *Lea. Tr. Am. Ph.* 6.—VARICOSA. *Lam.*—MYA RUGULOSA. *W. S. f.* 7.—ALASMODONTA M. *Say. in J. A. N. S. Phil.* 1.—*Barnes in Sil. J.* 6.—*Gould. Mass. p.* 116. *f.* 77. Transversely ovate, thin, inequilateral, gaping anteriorly, posteriorly narrow, rounded at both extremities above and below; ligamental edge scarcely sloping, ventral subincurved in the middle; umbonal ridge elevated and well defined, anterior slope with coarse rounded wrinkles running obliquely dorsally and anteriorly, beaks at the posterior third, rather small but elevated: cuticle olivaceous, shining, obscurely rayed with broken lines: nacre bluish white, with a chalky white margin; tooth small, compressed, looking backwards.  $1\frac{1}{10}$  . . 2.—*Massachusetts, &c.*

U. RUGOSA.—ALASMODONTA R. *Barnes in Sil. J.* 6. *t.* 13. *f.* 21.—*Eat. & Hild.*—U. ABDUCTA. *Say.* Oblong, thick, rounded at both ends, posterior side not quite so long nor broad as anterior, ligamental edge nearly straight, not sloping, ventral edge little curved, anterior slope with deep divergent folds, the ridge little elevated, the folds indenting the edge; cuticle chestnut with a pearly lustre; nacre flesh colour, becoming at the margin pearly white, with a narrow margin of dark chocolate: teeth large and elevated with a fold behind. 2 . .  $3\frac{1}{10}$ .—*N. America*.

SECTION B.—*Smooth.*

U. DELTOIDEA.—MARG. D. *Lea. on U.* 2. *p.* 43. *t.* 13. *f.* 38. Ovate, inequilateral, compressed, thin, obliquely rounded posteriorly, obtuse anteriorly, the anterior ventral margin incurved; beaks prominent, undulated at the tip and devoid of the green rays which elsewhere adorn the yellow cuticle: cardinal teeth erect, the lateral obsolete: nacre white and iridescent.  $\frac{1}{10}$  . .  $1\frac{1}{2}$ .—*Ohio*.

U. UNDULATA.—ALASMODONTA U. *Say. Am. C. t.* 16.—(Young.) A. SCULPTILIS. *Say.*—MYA UNDULATA. *Wood. S. t.* 1. *f.* 5.—U. GLABRATUS. *Sow.* Transversely ovate, inequilateral, strong, much inflated, widely gaping, anteriorly attenuated and angulated, posteriorly and at the ventral edge rounded; beaks tumid elevated and undulated: cuticle shining dark green, with obscure linear rays alternately yellow and dark, nacre white; one cardinal tooth in each valve supported by a strong internal rib.  $1\frac{1}{2}$  . . 2.—*Massachusetts, &c.*

U. SWANANOENSIS.—MARG. RAVENELIANA. *Lea. Trans. Am. Ph.* 5. *t.* 17. *f.* 50. Transverse, oblong, anteriorly longer and

subcuneiform, posteriorly rounded, ligamental edge straight, ventral incurved in the middle; inflated, thin, beaks small, ligament shortish, umbonal slope large and rounded; cuticle brown with rays anteriorly, nacre bluish white: cardinal teeth small, rather compressed.  $1\frac{1}{10} \dots 2\frac{1}{8}$ .—*N. Carolina*.

U. *RADIATA*.—*ALASMODONTA* R. *Conr. in Sil. J.* 25. t. 1. f. 10. Elongated-ovate, transverse, ventricose, posteriorly narrow and obtusely angulated, anteriorly produced and pointed at the end, ventral edge entire and rounded at the sides: beaks prominent and pointed at the apex which has two or three profound undulations, cuticle light olive with beautiful dark green rays, nacre waxen yellowish, cardinal teeth elongated, in one valve distant, close under the beak in the other.  $2\frac{1}{4}$ .—*S. Alabama*.

U. *CALCEOLA*. *Lea. on U.* 1. p. 7. t. 3. f. 1.—*ALASMODONTA TRUNCATA*. *Conr.* Transverse, suboval, inequilateral, ventricose, subcylindrical, thin, posteriorly rounded, anteriorly obtusely angulated both above and below, ventral edge not incurved, dorsal straightish and anteriorly ascending: beaks slightly undulated and touching, not decorticated: cuticle dark green, lighter towards the beaks, with indistinct rays, nacre white and silvery: cardinal tooth prominent.  $\frac{2}{3} \dots 1\frac{1}{2}$ .—*Ohio*.

U. *BONELLII*.—*ALASMODONTA* B. *Ferussac*.—*DEPRESSA*. *Pfaff. t.* 8. f. 3, 4.—*Rossm. f.* 134. Oblong, compressed, thin, posteriorly attenuated, rounded and very short, anteriorly produced and dilated, ventral edge simple and scarcely arcuated: cardinal teeth close, single one in each valve, no lamellar ones: ligamental sinus ovate.  $2\frac{1}{2}$ .—*S. Germany*.

U. *PARAGUAYANA*.—*MONOCONDYLEA* P. *D'Orbig. Am. t.* 70. f. 5, 6, 7. Ovate-subquadrilateral, inflated, thick, strigillated, posteriorly rounded short and narrow, anteriorly dilated, with an elevated sulcus radiating from the beaks and angulating at its extremity, the arcuated ventral edge: beaks prominent, rounded, the cuticle thick, greenish brown: nacre greenish white, the tooth thick, elevated and obtuse. *S. America*.

U. *PARCHAPPII*. *Lea*.—*MONOCONDYLEA* P. *D'Orbig. S. Am. t.* 68. f. 1, 2, 3. Ovate-oblong, compressed, striated, anteriorly dilated, posteriorly short and rounded, ligamental edge straight, ventral entire and little arched; beaks eroded and not prominent, an indication of a lunule; the cuticle greenish brown; inside rosy, the tooth prominent thick rounded and obtuse.  $1\frac{1}{3} \dots 1\frac{1}{2}$ .—*S. America*.

U. *CORRIENTESINSIS*.—*MONOCONDYLEA* C. *D'Orbig. S. Am. t.* 68. f. 8, 9, 10. Rounded-ovate, compressed, strigillated, greenish, posteriorly narrow short and rounded, anteriorly dilated rounded and with one or two green lines; ventral edge strongly arcuated, beaks not prominent, no lunule, inside bluish white: tooth thick, broad, and prominent.  $1\frac{1}{3} \dots 1\frac{1}{2}$ .—*S. America*.

**U. GUARAYANA.** *Lea.*—**MONOCONDYLEA** G. *D'Orbig. S. Am. t. 68. f. 4, 5, 6, 7.* Ovate, inflated very thick, striated, posteriorly short and rounded, anteriorly marked with two deep sulci, a prominent upper keel, and a large groove in the middle of the shell: beaks little prominent; with a lunule: inside pink, tooth little elevated, almost obsolete in one valve.  $1\frac{1}{4} \dots 1\frac{1}{2}$ .—*S. America.*

**U. FOSSICULIFERUS.** *Lea.*—**MONOCONDYLEA** F. *D'Orbig. in Mag. de Z. 1835.* Ovate, compressed, thickish, wrinkled by striae, greenish brown, posteriorly much shorter and rounded, anteriorly very broad and extremely dilated, seeming almost winged, the ligamental edge being above the level of the beaks and angulated at its extremity, umbonal ridge sharp, ventral edge much arcuated, beaks obtuse: within iridescent, white with violet spots, a tooth and fossicle in each valve. 3.—*S. America.*

**U. MINUANUS.** *Lea.*—**MONOCONDYLEA** M. *D'Orbig. S. Am. t. 70. f. 8, 9, 10.* Ovate-oblong, thick, inflated, smoothish or wrinkled, posteriorly short, rounded, and the dorsal edge incurved, anterior dorsal edge straight and angulated at its extremity: beaks prominent and lunate; cuticle greenish, marked anteriorly with one or two greenish lines: inside greenish white, the tooth lamellar elevated obtuse.  $1\frac{1}{4} \dots 1\frac{1}{2}$ .—*S. America.*

**U. MARGARITIFERUS.\*** *Drap. 132. t. 10. f. 17, 8, 9.—Pfeif. t. 3. f. 11.—Ross. f. 72. 74. 129.—Turt. M. f. 9.—MYA M. D. p. 52.—W. t. 2. f. 30.—List. t. 149.—Schroë. F. t. 4.*

**U. SINUATA.** *Lam. & Pfeif.—U. ELONGATA & ROISSYI. Michel.* Elongated-oblong, transverse, inequilateral, rather compressed, thick, heavy, black brown, umbones usually eroded, and the ventral edge (save in the young,) incurved centrally and little arcuated; anterior side twice as long as posterior; its dorsal edge short with an obtuse angle at its end rounded posteriorly; a short crested irregular posterior tooth in one valve, shutting between two in the other. 3.—*Europe.*

**U. HOLSTONIANUS.** *Lea.—MARG. H. Lea. on U. 2. p. 42. t. 13. f. 37.* Transverse, very inequilateral, thinnish, oblong, rounded at both ends and the ventral edge incurved in the middle; the beaks somewhat prominent and undulated; cuticle brown, wrinkled and apparently rayless; nacre white and iridescent: cardinal teeth large.  $1\frac{1}{2} \dots 2\frac{1}{2}$ .—*R. Holston.*

**U. FABULA.** *Lea.—MARG. F. Lea. on U. 2. p. 44. t. 13. f. 39.* Transverse, inequilateral, somewhat inflated, thickish, flattened on the side, suboblong, ventral edge incurved, umbonal slope raised; beaks rather prominent, ligament short; cuticle greenish with indistinct rays, nacre salmon coloured: cardinal teeth small and erect.  $\frac{1}{2} \dots \frac{3}{4}$ .—*Tennessee.*

## DIVISION C.

*A linear tooth under the dorsal edge.*

U. BIALATA. *Desh. in Lam.*—DIPSAS PLICATUS. *Leach.*—MYTILUS DUBIUS. *Gmel.*—ANODON DIPSAS. *Blain. t. 66. f. 3.*—A. ALATUS. *Sow.*—SYMPHONOTA B. *Lea. on U. 1. p. 59. t. 14.* Triangular-ovate, inequilateral, subventricose, transversely and finely wrinkled, dorsal edge suddenly raised at its extremities into two wings, the anterior one the largest: valves thin, connate before and behind the beaks which are not prominent but undulated as well as the base and summit of the anterior wing: sides and ventral edge simply rounded: cuticles having yellow and purple brown with green oblique rays, nacre pearly and iridescent: one lamelliform curved tooth in each valve. 2 (from beak)... 3½. — *Canton.*

U. DISCOIDEUS. *Lea.*—SYMPHONOTA D. *Lea. Trans. Am. Ph. 5. t. 11. f. 33.*—U. TENUIS ♂ ANOD. T. *Grif. Cuv.* Transverse, subrhomboidal, dorsal edge nearly straight, ventral strongly arcuated; very thin, compressed, inequilateral, finely wrinkled, connate anteriorly: beaks very slightly undulated, compressed, ligament linear; cuticle dark brown, nacre white and iridescent; teeth in both valves forming a simple line. 2½... 3½. — *Java?*

## HYRIA.

*Equivalve, obliquely triangular, auriculated, the dorsal edge truncated and straight: hinge with two little elevated teeth, the posterior or cardinal one divided into numerous diverging portions, (the inner portions being the smaller); the anterior or lateral tooth very elongated and lamellar. Ligament external and linear.*

H. SYRMATOPHORA. *Sow. G. f. 1.*—*Reeve. t. 90. f. 1.*—MYA S. *Gronov. t. 18. f. 1.*—*D. p. 54.*—*W. t. 2. f. 36.*—*List. t. 160. f. 16.*—H. AVICULARIS. VAR. B. *Lam.* Ovate-subrhomboidal, dark olive, nearly smooth, hinge margin straight and forming short wings at its extremities, anterior edge almost direct and straight so as nearly to form a rectangle with the ventral: posterior side narrow, the edge uniting with the ventral in an oblique curve: tumid, the anterior slope very flattened and bounded posteriorly by an obtuse ridge. 2½... *Guinea?*

H. AVICULARIS. *Lam. 1.*—*Del. t. 12. f. 9.*—H. ELONGATA. *Swain. Ex. Con. t. 24.* Oblong-subtriangular, hinge margin with produced and narrow wings at its extremities: anterior edge forming an acute angle with the ventral edge, which forms one uninterrupted line with that of the very attenuated posterior extremity: convex, nearly smooth, the cuticle brown and the anterior slope simple. 3½. — *Guiana.*

**H. CORRUGATA.** *Lam.* 2.—*E. t.* 247. *f.* 2.—*Reeve. t.* 90. *f.* 2.  
—**MYA ANGULATA.** *W. S. t.* 1. *f.* 12. Triangular, posteriorly narrower and obliquely rounded, the beaks with longitudinal wrinkles, which anteriorly become coarser and subdivided, with transverse groove-like striæ; the ears short, the anterior one obtuse. —*Variety.* *Sow. G. f.* 2. The anterior ear sinuous at the base and somewhat plaited: cuticle dark brown.  $3\frac{1}{2}$ .—*Guiana.*

**H. BROWNIANA.**—**UNIO B.** *Lea. on U.* 2. *p.* 108. *t.* 24. *f.* 116. Triangular, inflated very inequilateral, winged anteriorly, thick; beaks prominent; epidermis striated, dark brown, nacre white; cardinal teeth rather large and striated, lateral long and nearly straight. 1..2.—*R. Amazon.*

#### ANODONTA.

*Equivalve, inequilateral and transverse; hinge linear, without teeth; dorsal edge glabrous, adnate and anteriorly either truncated or forming a sinus; two lateral, remote, twin, muscular impressions; ligament linear, external, sunk in a cleft at the anterior extremity.*

\* *No distinct angle at the posterior extremity of the hinge margin.*

#### SYMPHONOTA.

**A. WAHLAMATENSIS.** *Lea. on U.* 2. *p.* 78. *t.* 20. *f.* 64. Obtusely triangular, winged, somewhat inflated, thin, inequilateral, connate over the ligament; beaks rather compressed, yellowish and undulated at the tip, cuticle rather smooth and shining, having a small dark band at the line of growth near the margin: nacre white.  $1\frac{1}{2}$ .. $2\frac{1}{2}$ .—*Near the Rocky Mountains.*

**A. MAGNIFICA.** *Lea.*—**SYMPHONOTA M.** *Lea. Am. Ph. Tr.* 1837. *p.* 43. *t.* 5. *f.* 14. Rounded-ovate, inequilateral, thin, very inflated near the beaks, the dorsal edge almost straight and sharply angulated at the extremities, the anterior edge obliquely aloping, the ventral simply but strongly arcuated; beaks inflated and near the tips undulated; cuticle smooth, yellow, with numerous green rays, nacre pearly and highly iridescent (sometimes tinged with salmon and pink); scars scarcely perceptible.  $2\frac{1}{10}$ .. $3\frac{1}{2}$ .—*Canton.*

**A. WOODIANA.** *Lea.*—**SYMPHONOTA W.** *Lea. Am. Ph. Tr.* 1837. *f.* 42. *t.* 5. *f.* 13. Transversely-ovate-subpentangular, thin, turned over the umbones, posteriorly very short, narrower and obtuse, anterior edge almost forming a right angle with the sinuated ventral which curves outwards near the middle; anterior slope carinate; ligamental edge nearly straight and direct: cuticle dark



A. EDENTULA. *Lea.*—ALASMODONTA E. *Say.*—AN. AREOLATUS. *Swain. Zool. Ill. 2d series.* Transversely-oval, inequilateral, sides rounded both above and below, convex, ventral edge arcuated, ligamental edge direct; umbones small, bent, not touching; with a short undulated projection of the hinge margin in one valve and a corresponding concavity in the other, both placed beneath the umbones; cuticle dark olive, smooth. 2.—*N. America.*

A. PAVONIA. *Lea. on U. 2. p. 78. t. 21. f. 65.* Elliptical, inflated, inequilateral, thin: beaks somewhat prominent and with rather large undulations at the tip: ligament rather short and thin: cuticle smooth shining, with numerous dark green rays which diverge to the whole margin: nacre bluish.  $1\frac{1}{2}$ ...3.—*Ohio.*

A. LIMNOICA. *D'Orbig. in Mag. de Z. 1835.* Oblong, subinflated, rather smooth, thin, green, short and rounded posteriorly, elongated broad, almost angulated, yellowish, anteriorly; nacre pink.  $1\frac{1}{2}$ ...2.—*S. America.*

A. TRIGONA. *Spix. Test. Braz. t. 22. f. 2.* Ovate-triangular inequilateral, compressed solid, transversely grooved, with a longitudinal gibbous elevation in the middle; anteriorly somewhat beaked and acuminate, posteriorly rounded, ventral edge anteriorly incurved; dorsal edge straight anteriorly angulated and winged: beaks depressed and decorticated, umbones flattened. 1... $1\frac{1}{2}$ .—*Brazil.*

A. PURPUREA. *Valen. Zool. to Humb. voy. t. 48. bis. f. 3.* Transverse, elliptic, rich brown, transversely striated; dorsal edge nearly straight; anterior side compressed, the edge obtusely angulated, the slope not ridged; ventral edge incurved in the middle: beaks decorticated; inside purple.  $1\frac{1}{2}$ ...2 $\frac{1}{2}$ .—*Philippines.*

A. FERUSSACCIANA. *Lea. Am. Ph. Tr. 1837. t. 6. f. 15. p. 45.* Oblong-subcylindrical, thin, inequilateral, inflated, ventral and ligamental edges nearly straight and subparallel (the former very slightly incurved,) dorsal margin curved immediately under the point of the beak; posteriorly rounded shorter and narrower, anteriorly somewhat angulated: cuticle dark olive, shining, with obsolete rays; beaks somewhat prominent, very slightly undulated; nacre bluish white and iridescent: scars perceptible.  $1\frac{1}{2}$ ...3 $\frac{1}{4}$ .—*Ohio.*

A. SALMONIA. *Lea. on U. 2. p. 45. t. 14. f. 41.* Elliptical, transverse, inflated, very inequilateral, within salmon colour, and usually very rough; thin, ventral edge subincurved; beaks somewhat prominent and slightly undulated at the tip, the ligament rather short; cuticle dark brown, sometimes with yellow bands.  $1\frac{1}{2}$ ...2 $\frac{1}{5}$ .—*Ohio.*

A. INCERTA. *Lea. Am. Ph. Tr. 1837. t. 6. f. 16.*—IMBECILLIS? *Say.* Elongated-elliptic, very thin, inflated, posteriorly shorter and rounded, anteriorly subangulated; dorsal line nearly

straight subparallel to the ventral which is scarcely at all arcuated : beaks flattened and minutely undulated : cuticle very smooth, green and olive green with obsolete rays (the three anterior more distinct) nacre bluish white and iridescent, scars nearly perceptible.  $1\frac{1}{2} \dots 3\frac{1}{2}$ . — *Ohio*.

A. NEWTONENSIS. *Lea. on U. 2. p. 79. t. 21. f. 66.* Narrow elliptical, inflated, thick, ventral edge entire, inequilateral ; beaks somewhat prominent and rather largely undulated at the tip : ligament rather short : cuticle dark brown, shining, apparently rayless : nacre white, sometimes salmon  $2\frac{1}{10} \dots 4\frac{3}{4}$ . — *New Jersey*.

A. MORTONIANA. *Lea. Am. Ph. Tr. 1837. t. 13. f. 37.* — A. CHIQUITANA. *D'Orb. in Mag. de Z. 1835.* Transversely subelliptical somewhat inflated, thick, the ventral and ligamental edge nearly parallel and scarcely curved, anteriorly subbiangulated, posteriorly very short and narrow : grooved along the umbonal slope ; beaks retuse and scarcely prominent : cuticle intensely brown and slightly wrinkled ; nacre silvery white and iridescent.  $1\frac{1}{2} \dots 3$ . — *R. Parana, S. America*.

A. OVATA. *Lea. on U. 2. p. 2. t. 2. f. 2.* Ovate, somewhat compressed, transverse inequilateral, thinnish, ventral edge rounded ; beaks somewhat prominent and granular at tip ; ligament rather short : cuticle greenish brown, wrinkled, apparently rayless ; nacre white or bluish.  $2\frac{1}{2} \dots 4$ . — *Ohio*.

A. PLANA. *Lea. Am. Ph. Tr. 1837. t. 7.* — DECLIVIS. *Conr.* <sup>1</sup> Ovate-oblong, inequilateral, thick, rather compressed, anteriorly subangular, dorsal line slightly curved, ventral edge but slightly arcuated, posterior side but little narrower ; beaks elevated, granular at the tip ; cuticle smooth, olive to dark green, brighter on the beaks, rays obsolete ; nacre white (rarely salmon near the beaks,) scars perceptible.  $3\frac{1}{10} \dots 5\frac{3}{4}$ . — *Louisville, N. America*.

A. DECORA. *Lea. on U. 2. p. 64. t. 20. f. 63.* Elliptical, thin, nearly straight on the dorsal margin, inequilateral, angular anteriorly ; beaks rather prominent and undulated in a double series at the tip ; ligament rather long and straight ; cuticle smooth and shining, rayed with green beyond the subcentral dark band ; anterior slope dark, with three rays : nacre white just tinged with salmon in the cavity.  $2\frac{1}{2} \dots 3\frac{2}{5}$ . — *Ohio*.

A. GIGANTEA. *Lea. on U. 2. p. 1. t. 1.* Ovate oblong, inflated, thick, posteriorly broad, anteriorly very produced and subcuneiform from the great slope of the ligamental margin ; beaks prominent, granular at tip ; cuticle dark brown, smooth ; ventral edge incurved anteriorly ; nacre white and richly pearly.  $4\frac{1}{2} \dots 7\frac{1}{2}$ . — *Port Gibson.*<sup>1</sup>

A. OREGONENSIS. *Lea. on U. 2. p. 80. t. 21. f. 67.* Some-

<sup>1</sup> Add likewise the A. SUBVEXA of *Conrad*.

what winged, rather inflated, elliptical, inequilateral, thin: beaks scarcely prominent and undulate at tip; cuticle olive somewhat shining and striate; nacre white.  $1\frac{1}{2} \dots 3\frac{1}{2}$ .—*Near the Rocky Mountains.*

A. PEPINIANA. *Lea. on U.* 2. p. 96. t. 16. f. 51. Trapezoidal, inequilateral, rather inflated, flattened on the sides, thin, transverse, carinate anteriorly: beaks prominent: umbonal slope rather elevated and rounded: cuticle transversely striated, with the lines of growth strongly marked and apparently without rays; nacre white.  $1\frac{1}{2} \dots 2$ .—*Ohio.*<sup>1</sup>

A. WARDIANA. *Lea. on U.* 2. p. 46. t. 14. f. 42. Elliptical transverse, thin, somewhat inflated, inequilateral, at the base sub-emarginate, dorsal margin curved under the beak: umbonal slope rounded: beaks prominent, concentrically undulated at the tip: ligament rather short; cuticle green, disposed to be yellow on the anterior slope and the beaks: nacre bluish.  $1\frac{1}{10} \dots 3$ .—*Ohio.*

A. STEWARTIANA. *Lea. on U. & in Amer. Phil. Tr.* 6. Rounded-ovate, very thin, much inflated, anteriorly subangulated, posteriorly short and narrower, dorsal line rather short, nearly straight and forming obtuse angles at both extremities, ventral edge convex; beaks prominent and granulated at the tip in a short double series; cuticle roughish, olive green, obtusely rayed; nacre bluish white, iridescent, sometimes tinged with salmon colour about the beaks.  $2 \dots 3\frac{1}{10}$ .—*Louisiana.*<sup>2</sup>

A. GRANDIS. *Say. in Transylvania Journal.*—A. CORFUS-LENTA. *Cooper.* Very large, subovate; disc unequally wrinkled and undulated transversely, dark yellowish brown: umbo elevated; beak slightly elevated, with generally two or three small sinuous acute undulations; hinge margin slightly arcuated, sometimes nearly rectilinear, somewhat angulated at its anterior termination, thence the edge descends by a nearly rectilinear or slightly concave line to the anterior margin, which is considerably narrowed; sinus of the hinge margin concave; posterior margin widely rounded; within white margined particularly in front, with dusky.  $5 \dots 7\frac{1}{2}$ .—*R. Wabash.*

#### B. Obovate.

A. TRAPEZIALIS. *Lam.* 11.—*Ch. f.* 762.—*E. t.* 205. f. 1.—*Exot. Conch. t.* 36. Ovate, fragile, tumid, posterior slope elevated compressed and more winged than the anterior, pale yellowish olive subradiated posteriorly by darker lines: umbones broad,

<sup>1</sup> Add likewise the A. CHATZIANA. *Rang.*

<sup>2</sup> Add likewise the A. GIBBOSA of *Say.*

smooth, and prominent : within pearly, with purple stains beneath the hinge.  $3\frac{1}{2}$ .

A. GLAUCA. *Lam.* 13.—*Del. t.* 13. *f.* 3.—*Valen. in Hum. Zool.* Obovate, tumid, thin, fragile, obsoletely rayed, with green on an olive ground, compressed and winged anteriorly, posteriorly very short, narrower and obliquely rounded at the ventral margin.  $3\frac{1}{2}$ .—*Acapulco in America.*

A. PATAGONICA. *Lam.* 15.—*E. t.* 203. *f.* 1. Obovate, anteriorly angulated, compressed and carinated on the anterior slope, yellowish or brownish green, with concentric transverse striæ and grooves ; beaks slightly prominent ; sides rounded ; ventral edge simply arcuated, not incurved ; sinus of posterior hinge margin very short, incurved and angulated at its extremity. 3.—*Patagonia and La Plata.*

A. OBTUSA. *Spix. Test. Braz. t.* 22. *f.* 3, 4. Oblong-ovate, obtuse, very slightly dilated anteriorly, solid, transversely grooved : dorsal edge straightish, winged and angulated at each extremity ; beaks prominent and decorticated : umbones flattened and smoothish, edges thin and sharp : cuticle olive with obsolete radiating blackish lines, (in the young with additional angularly flexuous transverse ones ; ) nacre bluish and iridescent.  $1\frac{1}{2}$  . . 2.—*Brazil.*

A. SIRIONOS. *D'Orbig. in Mag. de Z.* 1835. Obovate, compressed, thin, olive coloured, very inequilateral, the posterior side narrowed, ligamental edge elevated and angulated at the extremity, the posterior dorsal edge short and incurved, posterior edge obliquely sloping to meet the much arcuated ventral margin : nacre greenish.  $2\frac{1}{2}$  . . 4.—*Bolívar.*

A. LATOMARGINATA. *Lea. Am. Ph. Tr.* 1837. *t.* 12. *f.* 34.—*D'Orb.*—A. TRAPEZIUS? *Spix.*—A. ROTUNDUS? *Spix.* Transversely obovate, inflated, thick, posteriorly very short and narrow, anteriorly dilated and obtuse, dorsal line little curved : cuticle reddish brown, finely wrinkled ; nacre pearly white and iridescent, with a broad horn-coloured border at the rounded ventral edge ; sinus long and pointed to the interior of the disc.  $2\frac{1}{2}$  . .  $3\frac{1}{2}$ .—*R. Parana, S. America.*

A. SPIXII. *D'Orb. in Mag. de Z.* 1835.—A. TRAPEZIUM. *Spix. Braz. t.* 20. *f.* 1. Ovate-trapeziform, ventricose, anteriorly dilated and rounded, posteriorly much narrower, thick, transversely striated ; dorsal line somewhat curved, the anterior slope elevated and obtusely angulated, posteriorly terminated by an acute angle ; margins attenuated and acute : beaks prominent, inflexed, decorticated ; umbones inflated ; hinge-lamina somewhat curved and terminated anteriorly by an angular sinus : cuticle olive green, nacre smooth, bluish-white iridescent. 2 . .  $2\frac{1}{2}$ .—*Brazil.*

A. PORCIFER. *Gray. Z. P.* 1834. Ovate, subventricose, thick,

solid, posteriorly convex and rounded, anteriorly produced, with an angular ridge near the depression of the anterior margin; ventral margin anteriorly roundish; disc very glossy, iridescent, pearly, cuticle black with green rays. *Paraguay*.

A. ANSERINA. *Spix. Test. Braz. t. 21*. Ovate-oblong, anteriorly dilated, posteriorly somewhat narrowed, solid, transversely grooved: dorsal edge straight, the anterior slope elevated, compressed and winged, posteriorly ending in an acute angle: beaks decorticated and rather prominent, hinge margin ending anteriorly in a triangular sinus; cuticle olive, nacre bluish and iridescent.  $1\frac{1}{12} \dots 4\frac{1}{12}$ .—*Brazil*.

A. PARISHII. *Gray. Z. P. 1834*. Ovate, ventricose, solid posteriorly compressed, somewhat produced and rather slender; anteriorly expanded, dilated and rounded; hinge margin straight, equalling in length the half of the ventral: disc pearly white; cuticle blackish brown.  $3\frac{3}{4} \dots 7\frac{1}{4}$ .—*Paraguay*.

A. BLAINVILLIANA. *Lea. Am. Ph. Tr. 1837. t. 12. f. 35*.—TRAPEZIALIS. *Crouch. Lam.—IRIDINA F. D'Orb*. Subovate, transverse, inflated, thickish; posteriorly very short and extremely narrow, the straight dorsal line forming an acute angle with the arcuated ventral; anteriorly much dilated, obtusely biangulated; gaping at both ends; beaks somewhat prominent; pallear scar broad and much incurved anteriorly; cuticle greenish? nacre salmon and pearly.  $1\frac{1}{10} \dots 3$ . *Chili?*

A. CRASSA. *Swain. Z. Ill. 1st. ser. t. 167*. Oval, broad, thick, hinge margin subarcuated, raised anteriorly, and sharply angulated at both extremities; ventral edge much arcuated, rounded anteriorly and meeting the posterior in an uninterrupted very oblique sweep; umbonal slope elevated and somewhat angulated, umbones thick and prominent, but obtuse at their apex; cuticle dark grass green, nearly smooth, except anteriorly where the lines of growth are coarse.

A. ANGULATA. *Lea. on U. 2. p. 97. t. 16. f. 52*. Subcuneiform, posteriorly shorter, compressed, attenuated and rounded at the tip, anteriorly inflated, winged angulated above and below: the dorsal edge ascending, ventral edge nearly straight: cuticle green and smooth; (but the anterior slope is rugged and strongly carinated:) nacre salmon.  $2\frac{1}{4}$ .—*California*.

### C. Round.

A. SUBORBICULATA. *Say. Am. Con. t. 11*. Ovate orbicular, rather compressed, inequilateral, pale olivaceous tinted with flesh-colour, with very slender and numerous almost capillary obsolete greenish radii (sometimes with more or less obvious transverse yel-

lowish bands towards the base :) beaks not elevated: hinge margin rectilinear compressed posteriorly, and anteriorly compressed almost to a wing, ligament almost concealed: posterior margin rounded, anterior a little prominent obtusely angulated, ventral much arcuated; inside as much undulated as without, pale bluish varied with pale flesh. 4 . . 5 $\frac{3}{5}$ .—*N. America*.

D. *Wide*.

A. *ELONGATA*. *Swain. Z. II. 1st. ser.* Transversely elongated oblong, convex, thick, posteriorly very short and rounded above and below, anteriorly produced compressed attenuated but rounded at the tip, ventral edge little arcuated and incurved subcentrally; cuticle fulvous, nearly smooth, umbones convex, remarkably thick and deeply eroded: inside pearly and iridescent with a tinge of flesh colour, hinge plate rather convex. 1 $\frac{1}{2}$  . . 2 $\frac{3}{4}$ .—*S. America?*

A. *ENSIFORMIS*. *Spix. Test. Braz. t. 24.—D'Orb.* Transverse, four times as broad as long, posteriorly rounded and very short, anteriorly produced into a long attenuated beak, thick, transversely furrowed, ventral edge incurved; beaks retuse, decorticated, umbones depressed; cuticle olive, nacre bluish and iridescent. 1 $\frac{1}{2}$  . . 4 $\frac{1}{2}$ .—*Brazil*.

A. *CYLINDRACEA*. *Lea. on U. 2. p. 45. t. 13. f. 40.* Subcylindrical, very transverse, posteriorly very short and rounded, anteriorly produced and rounded biangular, the ligamental edge straight and long, ventral incurved and little rounded: thin, the cuticle dark brown covered with capillary rays: umbonal slope rounded: beaks somewhat prominent: nacre blue and iridescent. 1 $\frac{3}{8}$  . . 2 $\frac{1}{8}$ .—*Vera Cruz*.

A. *SUBCYLINDRACEA*. *Lea. on U. 2. p. 106. t. 24. f. 117.* Elliptical, twice as broad as long, subcylindrical, very thin, posteriorly short and rounded, anteriorly produced and obtuse, ligamental and ventral edges nearly straight, the latter subincurved: beaks somewhat prominent and minutely undulated at the tip: cuticle brown and rayless: nacre bluish and iridescent. 2 $\frac{1}{2}$ .—*New York*.

A. *BUCHANENSIS*.<sup>1</sup> *Lea. on U. 2. p. 47. t. 14. f. 23.* Transverse inflated, thin, subcylindrical, posteriorly short and rounded, anterior very produced and obtuse, ventral edge incurved, sides flattened; umbonal slope elevated and rounded; beaks somewhat prominent and minutely undulated: cuticle greenish, darker on

<sup>1</sup> Add likewise the A. *ARCUATA* of Ferussac, the A. *ESULA* of Cristofori and Jan's Catalogue (*Iridina E.* of D'Orbigny) and the A. *Georginæ* of Gray figured (*Mollusca. t. 19. f. 23.*), but not described in Griffith's edition of Cuvier.

the anterior slope: nacre white, bluish anteriorly.  $1\frac{1}{10} \dots 3$ .—*Ohio*.

A. SINUOSA. *Lam.* 14.—*E. t.* 203. *f.* 2. Oval, transversely striated, contracted at the ventral margin, hinge margin waved and sinuous, being concave at the posterior extremity, with whose edge it forms a sharp angle: beaks moderately prominent, smooth, and spotted with violet: brilliant and iridescent within.  $3\frac{1}{2}$ .

A. EXILIS. *Lea. on U.* 2. *p.* 81. *t.* 22. *f.* 68. Wide, very much compressed, very thin, slender, rounded and very short posteriorly, produced and angulated anteriorly: beaks scarcely prominent; ligament long and thin; cuticle smooth brown, apparently rayless: nacre bluish and iridescent.  $1\frac{1}{2} \dots 6\frac{1}{2}$ .

A. TENEBRICOSE. *Lea. in Am. Ph. Tr.* 1837. *t.* 12. *f.* 36.—*D'Orb. in Mag. de Z.* 1835. Subelliptic, transverse, thick, rounded above and below at both extremities, dorsal line little curved, ventral edge incurved in the middle; posterior side short and narrower, ligament long and thick: cuticle dark olive brown, wrinkled, obscurely rayed on the anterior slope; nacre pearly white, clouded with bluish purple, iridescent, with a broad horn-coloured border: sinus incurved.  $1\frac{2}{10} \dots 3\frac{3}{10}$ . *R. Parana, S. America.*<sup>1</sup>

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<sup>1</sup> However closely approximating *Anodon*, the genus *Mycetopus*, cannot (being subequilateral,) be strictly included under Lamarck's definition of that genus.

#### MYCETOPUS. D'ORBIGNY.

*Thin, extremely elongated transversely, subarcuated, equivalve, subequilateral, gaping at both ends, (chiefly so posteriorly) clothed with an olive green cuticle, bluish internally; umbones central, biangulated, curving inwards: hinge linear, straight, toothless; ligament marginal and thin: muscular impressions rather indistinct, compound.*

M. SOLENIFORMIS. *D'Orb. Mag. de Z.* 1835. *p.* 41.—*Reeve. Sy. t.* 94. Extremely elongated, subcylindrical, subarcuated, inflated, thin, rather smooth, greenish brown; beaks central, anteriorly rounded; posteriorly biangulated broad; ventral edge concave; bluish within.  $2 \dots 9$ .—*Bolivar*.

M. SILIQUOSUS. *D'Orb. in Mag. de Z.* 1835.—*ANODON* S. *Spix. Test. Braz. t.* 23. *f.* 2.—A. LONGINUM. *Spix. t.* 22. *f.* 2. A. PYGMÆUM. *t.* 23. *f.* 34. Elongated, compressed, straight, extremely thin, smooth, pellucid, yellowish green; beaks thrice as near the posterior as the anterior, anteriorly truncated and rounded, posteriorly long and broad, subrhomboidal; ventral edge convex: inside bluish white.  $1\frac{1}{2} \dots 6$ .—*Bolivar*.

IRIDINA.

*Equivolvo, inequilateral, transverse; beak small, turned to one side and nearly straight; two separate lateral muscular impressions; hinge long, linear, and attenuated near the centre, tuberculous and nearly crenated; tubercles unequal; ligament external and marginal.*

I. EXOTICA Lam. 1—Bl. t. 66. f. 3.—E. t. 204. bis. f. 1.—W. S. t. 2. f. 10. Transversely elongated oblong, finely striated longitudinally, both extremities rounded, the ventral edge sinuated in the middle; beaks but slightly projecting above the margin. *Africa.*

I. RUBENS Desh. E. vol. 2. p. 320.—ANODONTA R. Lam. 6.—E. t. 201. f. 1 Rounded ovate, thick, reddish under a brown epidermis; hinge crenated with obsolete transverse grooves: the sinus of the hinge-margin forming a deep and acute angle.—*Nile* 2½

I. NILOTICA. Ferrussac. & Sow. Z. J. 1. t. 2.—W. S. t. 2. f. 1—MYTILUS DUBIUS. Gmel.—D. p. 118 Transversely elongated, very inequilateral, posteriorly attenuated, anteriorly produced and broader, cuticle greenish: hinge margin nearly straight, very slightly curved, angulated posteriorly; toothless but with obsolete irregular undulations beneath the umbones: ventral edge slightly incurved subcentrally: nacre purplish red.—*Senaar.* 2. . 5½

I. ELONGATA. Sow. G.—Reeve. t. 92.—Differs from Nilotica chiefly in having its hinge-margin strongly crenated, and its nacre brilliant and pure white. *Senegal.*

I. OVATA Swainson. Phil. Mag. 61.—Reeve. t. 93.—W. S. t. 2. f. 9.—PLEIDON MACMURTREI Conrad in Journ. A. N. S. Phil. 7. t. 13. Elongated-ovate, strong, convex, ventral edge much arcuated, sides rounded, the anterior the broader and longer; cuticle dark olive with obscure dark bluish green radiating lines, beaks usually eroded; nacre iridescent, silvery but often tinged with pink; hinge margin subarcuated, becoming broad at the extremities, furnished with large tubercular crenations. 2¼. . 3¾. *Liberia.*

I. CÆLESTIS. Lea on U. 2. p. 82. t. 22. f. 70 Elongated, subcylindrical, very smooth, very inequilateral, thin, straight on the dorsal margin, angular before and rounded behind: beaks somewhat prominent and apparently without undulations at the tip; cuticle polished, very dark, nacre bluish and iridescent. 1½. . 3¾ *Africa.* *Margins subparallel.*

TRIBE CHAMACEA.

*Shell inequivalve, irregular, and adherent; hinge with one tooth at most, and with two distinct lateral muscular impressions.*



C. SPONDYLOIDES. *Menke Spec. N. Holland. Mol.* Elliptic-lanceolate, longitudinal, whitish with scarlet rays, and oblique elegant riblike folds; lesser valve slightly convex, armed with elongated dilated vaulted scales; the larger one boat-shaped, externally with an angular carination, rough on one side and on the other muricated with various scattered scales; beak turning to the right; inner margin crenulated. *N.W. Coast of Australia.*<sup>2</sup>

### ETHERIA

*Shell irregular, inequivalve, adhering; beaks short, and appearing as if sunk in the top of the valves; hinge destitute of teeth, waved, somewhat sinuated, and unequal; with two remote oblong muscular impressions; ligament external, tortuous, penetrating partly into the shell.*

E. LAMARCKII. *Ferus.—N. Ann. du Mus.* 3.—E. ELLIPTICA & E. TRIGONULA. *Lam.* 1, 2.—*Ann. du Mus.* 10. t. 29., 30, 31.—*E. M.* 2. p. 120.—*OSTREA E. W. S. t.* 2. f. 6.—E. ELLIPTICA. *Bl. t.* 70, bis. f. 2. Very large, variable in shape, slightly flattened, and generally elongated longitudinally; texture thick and foliaceous, nacre white and very brilliant internally; muscular scars of the same hue as the rest of the interior; the beak not greatly produced.

E. CAILLAUDI. *Fer. Mem. Soc. H. N. Paris.* 1. p. 359.—*Novo. Ann. du Mus.* 3.—*Cail. Meroz.* 2. p. 51. f. 1, 2, 3.—*E. M.* 2. p. 121.—E. TUBIFERA. *Sow. Z. J.* 1. p. 523. t. 19. Moderately large, extremely variable in shape, thin, fragile, finely and irregularly foliaceous, sometimes armed with tubular points; cuticle thin and green; internal nacre scarcely iridescent, often greenish especially towards the centre, and white near the margin; covered with inflated callosities when aged; beak of the adherent valve often very large; muscular scars slightly concave, of the same colour as the nacre. *Egypt.*

E. PLUMBEA. *Ferussac. Mem. S. H. Nat. Paris.* 1. p. 359.—*N. Ann. du Mus.* 3.—E. SEMILUNATA. *Lam.* 3.—*Ann. du Mus.* 10. t. 32. f. 1, 2.—*Sow. G.—Reeve Sys. t.* 95.—E. TRANSVERSA. *Lam.* 4.—*Ann. du Mus.* 10. t. 32. f. 3, 4.—MULLERIA. *Sow. G.—E. CARTERONI. Michelin. Mag. de Zool. t.* 1. Usually somewhat smaller than the last, and equally as variable in shape, but more solid and irregularly foliaceous; often armed with tubular points

wretched specimens, which effectually prevented the possibility of any certain recognition of the species, it is thought preferable to insert the whole of the species enumerated in Mr. B's paper.

<sup>2</sup> See too the C. FOLIACEA of Quoy (*Ast.*) the EXOGYRA of Conrad (*J. Philad.* 7.) and the MITRULA of Menke's Synopsis

arranged in a few distant radiating rows; epidermis thicker and blackish; nacre of a leadlike iridescence, with green splotches and the scars green; margins less fragile and better finished, beak less developed, callosities fewer. *Senegal*.<sup>1</sup>

## ORDER MONOMYARIA.

*A single subcentral muscular impression.*

### SECTION I.

*Ligament marginal, elongated, sublinear.*

#### TRIBE TRIDACNACEA.

*Transverse, equivalve, solid; the muscular impression situated above the centre of the ventral margin, and extended on each side parallel to it.*

#### TRIDACNA.

*Shell regular, equivalve, inequilateral and transverse; a gaping posterior space near the beaks; hinge with two compressed anterior inserted unequal teeth; ligament marginal and external.*

*T. GIGAS.* Lam. 1.—CHAMA G. *Gmel.* 3299.—*D.* p. 213.—*Ch.* f. 495.—*List.* t. 354. f. 191.—*E.* t. 235. f. 1. Very large, ponderous transversely ovate, with great imbricated and scaly ribs; the scales short, thick, arcuated and crowded; interstices of the ribs not striated, except in young specimens; inner margin of the lunule crenulated. *Indian Ocean*.

*T. ELONGATA* Lam. 2. Ovate oblong, the posterior side the more produced, and its aperture large, dorsal margin crenated; ribs with numerous imbricated half raised scales—*Var. A.* Whitish, the interstices of the ribs obsoletely striated—*Var. B.* (*Gual.* t. 92. *E.*) Yellowish white, the interstices longitudinally striated—*Var. C.* (*E.* t. 235. f. 4.) Whitish, both interstices and ribs, longitudinally striated near the beaks.—6½. *Indian Ocean*.

*T. SQUAMOSA* Lam. 3.—CHAMA GIGAS. *var.* A. *D.* p. 213.—*Ch.* f. 1997, 8.—*Kn.* 1. t. 19. f. 3.—C. GIGAS. *W.* t. 9. f. 2. Ovate, white, reddish when young, ribs with large erect and distant scales; interstices thickly striated; posterior depression small, with the inner margin crenated. *Indian Ocean*.

<sup>1</sup> See too the *E. DENHAMI* in the appendix to Denham and Clapperton's Travels.

*T. CROCEA* Lam. 4.—*List. t.* 253. *f.* 190.—*Ch. f.* 496.—*E. t.* 235. *f.* 2. Oval, longitudinally striated, somewhat saffron coloured, particularly towards the margin, ribs narrow imbricated and scaly; scales numerous and most of them short but slightly raised at the margin, posterior depression large.—*Var.* (*CHAMA GIGAS* var. C. *D. p.* 214.—*Gualt. t.* 92. *A.*) Whitish.—4. *Indian Ocean...South Seas?*

*T. MUTICA* Lam. 5.—*Ast. t.* 80. *f.* 1, 2, 3. Large, oval, ventricose, ribs smooth but becoming scaly towards the margin, scales depressed, interstices of the ribs longitudinally striated, posterior aperture small, and the inner margin scarcely crenulated.—14½. *Indian Ocean.*

*T. SERRIFERA.* Lam. 6.—*CHAMA GIGAS* var. *D. D. p.* 214.—*Ch. f.* 497.—*E. t.* 235. *f.* 3. Oval, ventricose, uniform white, the ribs longitudinally striated and unarmed, except the extreme posterior ones which have scales resembling the teeth of a saw: interstices with strong longitudinal grooves, the ventral margin very rounded, posterior gape very small. 4½. 6. *Indian Ocean. A few small scales are sometimes seen on the anterior extremity.*

#### HIPPOPUS.

*Equivalve, regular, inequilateral and transverse; lunule not gaping; hinge with two compressed unequal anterior inserted teeth; ligament marginal and external.*

*H. MACULATUS.* Lam. 1.—*Sow. G.—Reeve. t.* 98. *f.* 1.—*CHAMA HIPPOPUS.* Lin. 1137.—*D. p.* 215.—*Ch. f.* 498, 9.—*W. t.* 9. *f.* 2.—*D. t.* 236. *f.* 2. Transversely ovate, thick, heavy and ventricose, white or yellowish with scattered purplish red spots; somewhat scaly, ribbed; posterior depression heart-shaped and oblique *Indian Ocean.* 6.

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#### TRIBE MYTILACEA.

*Hinge with a subinternal marginal ligament, which is linear, very entire, and occupies a considerable portion of the anterior margin; shell rarely foliaceous.*

#### MODIOLA.

*Subtransverse, equivalve, regular; the posterior side very short; beaks nearly lateral and inclined to the shorter side; hinge without teeth, lateral and linear; ligament placed in a marginal furrow, and nearly internal; a muscular impression which is sublateral, elongated and hatchet-shaped.*

SECTION. A.

*Having the general appearance of M. Modiolus i.e. smooth and sub-cuneiform.*

*M. MODIOLUS.\* Turton. Biv. 199. t. 15. f. 3. (young)—Gould Mas 123.—MYTILUS M. Lin. Sys. 12 ed. 1158. (certo).—Pen. 4. 238. t. 69.—Don. t. 23.—Da. Cost. t. 15. f. 5.—D. p. 314.—W. t. 12. f. 31.—Mont. 163.—MOD. VULGARIS. F. p. 412.—M. BARBATUS. Macg. Ab. 238.—MYTILUS B. Mont. 11. (not Lin. certo). Ovate oblong, ventricose, gradually widening anteriorly, cuticle of an uniform yellowish or brownish chesnut or black, substance thick, whitish with a darker or lighter tinge of livid purple; hinge margin ascending and straight for about half the length of the shell, umbonal ridge very distinct near the beaks which project and curve outwards; posterior extremity very short and narrow: anterior edge never incurved.—Var. M. PAPUANA Lam. 1.—Bl. t. 64. f. 3. (good), Transversely produced, very narrow, posterior side much attenuated. 6. N. Europe, N. America. The young are generally bearded with filaments which do not spread at the base as in the true Barbatus. The GIBBSII. of Turton's Bivalves (if this byssus be not extraneous) may be distinguished by its filaments being serrated on one edge*

*M. BARBATA. Lam. 14.—Philippi p. 70.—MYTILUS B. Lin. 1156 certo.—Gualt. t. 91. H. mid. fig. Subtriangular, not at all ventricose, under a concentrically imbricato-rugose ferruginous cuticle, rich red covered with lanceolate barbations, whose edges are not serrated except on the extreme posterior area, where the shell is white; dorsal edge rather short, forming an obtuse angle with the much extended edge of the flattened anterior side; posterior side all but obsolete, the terminal beaks forming an acute angle with the ventral margin: inside white stained with purplish red anteriorly: ligament quite internal. 2 Mediterranean and N. Seas. Almost a Mytilus, and very different from the young of M. Modiolus. This is the true Barbatus of Linnæus as I have ascertained by comparison with his specimens.*

*M. TULIPA Lam. 2. Sow. G.—Reeve Sys. t. 101. f. 5.—Knorr. 4. t. 15. f. 3.—E. 221. f. 1.—List. t. 759. f. 198. Oblong, thin, inflated, under a yellow cuticle, which posteriorly becomes dark chesnut, rayed with purplish red on the broader side; hinge margin much elevated but short, the anterior dorsal line thence sloping concavely to the obtuse anterior extremity; ventral edge incurved in the middle; beaks touching: posterior end narrow but prominent; umbonal ridge not obtusely angulated. 2. America, W. Indies. Var. (?) from New Holland. Less elongated, the rays united into one broad anterior streak, anterior edge uniting with the ventral in an uninterrupted convex line  $1\frac{1}{2}$ . The variety of Lamarck which I feel sure is a distinct species, is described from an ex-*

mination of the cited specimen in the *J. des Plantes*. It by no means agrees, with the expression of his text "*angustior*." It closely resembles if it be not identical with the *M. Radiata* of Brown.

*M. ALBICOSTA* Lam. 3.—*Del. t. 13. f. 8.* Ventral edge obsolete sinuated; bluish ash colour under a rufous or fawn coloured epidermis, a white radiating band on the posterior side of the umbonal ridge which becomes indistinct anteriorly. 1½.—*E. Indies, Timor, Australia.* General shape of the last species. The anterior dorsal angle prominent but rounded, the posterior extremity rather sharply projecting.

*M. ADRIATICA* Lam. 5. Ovate, thin, obliquely banded, ventral margin straight, hinge margin somewhat winged, very delicately striated concentrically: within bluish. 1½.—*Adriatic, near Venice* "Not unlike *Tulipa*."

*M. BRASILIENSIS*.—*MYTILUS MODIOLUS* B. *Ch. f. 2020, 1.*—*M. GUYANENSIS* Lam. 4.—*Del. t. 13. f. 9.*—*M. SEMIFUSCA*. *Sow. G. —Reeve Syst. t. 101. f. 6.* Oblong-subcuneiform, the umbonal ridge almost obsolete, ligamental edge scarcely elevated, very long; anterior edge convex; ventral, nearly straight, scarcely incurved; beaks touching: nacre pearly white, becoming purplish at the anterior extremity; exterior green anteriorly, rufous posteriorly, the colours separated by a very oblique narrow tawny ray; very distinct and regular concentric wrinkles; posterior extremity extremely narrow and prominent. 2½.—*Guiana.*

*M. SEMIFUSCA*. *LAM. 11.* Oblong ovate, becoming broader at the larger end, with very fine transverse serrated striæ, epidermis fuscous brown anteriorly, tawny posteriorly; beaks decorticated: margin entire. 1½.—*Mauritius?*

*M. SECURIS*. *Lam. 12.*—*MYTILUS S. Desh. E. vol. 2. p. 567.* Oblong, little incurved, acutely keeled at the dorsal edge, merely striated transversely, dark purple with the epidermis blackish brown: within violet, the inner margin quite entire. 1½.—*The larger ones from New Holland the smaller from Timor. Allied to if distinct from M. INCURVATA. Leach. Z. M. t. 72. f. 3.*

*M. MICROPTERA*. *Desh. in Lam. vol. 7. p. 27.*—*Ch. f. 760.* Narrow elongated, smooth under a yellowish brown scaly epidermis, and white slightly tinged with red or violet; beaks small and rounded; the hinge margin forming a small compressed and angular wing. 2.—*Coromandel. In shape not unlike M. Sulcata.*

*M. RECTA*. *Conr. Jour. A.N.S. Phil. 7. p. 243. t. 19. f. 1.* Transversely elongated, narrow, anteriorly produced and linguiform, the ligamental edge elevated but not angulated at its extremity; the ventral edge straightish; brown with a broad pale oblique stripe from the beaks anteriorly; inside very glossy and iridescent. 2.—*U. California.*

**M. ELEGANS.** *Gray. Spic. Z. t. 6. f. 14.* Thin, slender, pellucid, pale green, posteriorly attenuated rounded, anteriorly dilated; hinge margin straight, the anterior dorsal part finely rayed and transversely waved with purple, rest of the shell smooth.  $1\frac{1}{2}$ . *Africa.*

**M. METCALPEI.** *Nobis Z. P. 1844.* Subtriangular-oblong, ventricose, covered with a yellowish brown epidermis, which is glossy except upon a narrow strip adjacent to the ligamental edge, and a lunule-like spot at the posterior end; anterior area much compressed, obsoletely bearded, reddish purple; posterior surface bluish white; umbonal ridge very prominent and obtusely subcarinated near the acute and purple beaks; dorsal edge straight, much elevated, forming a distinct angle with the nearly straight and subequal anterior edge; anterior extremity rather attenuated and rounded; ventral edge subcentrally incurved; posterior extremity very narrow, short, but very prominent, and curving towards the beaks; inside stained with purple anteriorly.  $1\frac{1}{2}$ . 3. *Philippines.*

**M. AUSTRALIS.** *Gray in King's Australia.* Inclined to oval, greatly attenuated and extremely short posteriorly, bearded, ventricose, under the tawny cuticle which becomes chesnut at each extremity, the anterior slope purplish crimson; dorsal edge elevated, rather short forming an obtuse angle with the elongated anterior which is scarcely, if at all, incurved; ventral edge but slightly incurved: umbonal ridge only prominent near the narrow umbones: anterior extremity much produced but decidedly obtuse; inside purplish. 2. 3.—*Australia.*—*Shape intermediate between Modiolus and Tulpia.*

**M. PHILIPPINARUM.** *Nobis Z. P. 1844.* Ovate-oblong, tumid, nearly smooth but bearded anteriorly, the cuticle of a tawny colour becoming darker at the sides, and glossy excepting upon a lunule-like space at the tip of the rather prominent and rounded posterior extremity; dorsal edge elevated, but slightly convex, rather long forming a distinct but very rounded angle, with the nearly straight and slightly incurved anterior edge; ventral edge with a dilated incurvation; anterior extremity broad and rounded; beaks narrow, the umbones elevated and the umbonal ridge very conspicuous; within dark purple anteriorly.  $2\frac{1}{2}$ . 4. *Philippines.* *Somewhat like Modiolus.*

**M. BIRADIATA.** *Nobis. Z. P. 1844.* Oblong-triangular, ventricose, smooth, glossy, under a fulvous or brownish olive epidermis (which does not quite reach the nearly straight elongated and elevated hinge margin) reddish purple anteriorly, with a narrow white radiating streak beyond the very prominent umbonal ridge; the shell from thence becomes pale brown with a pale ray just before the posterior extremity which is rather short, but prominent, very

narrow and seemingly curved upward, from the sudden obliquity of the centrally incurved ventral edge; anterior edge long, scarcely at all retuse, extremity produced, attenuated, rounded; dorsal angle distinct, compressed; within purple anteriorly.  $1\frac{1}{2}$ .. $2\frac{1}{4}$ .—*South America?*

*M. SORDIDA*. *Nobis*. Z. P. 1844. Oblong, ventricose covered with an olive green epidermis, and anteriorly with a lamellar membranaceous yellowish-ashy covering, which is here and there produced into lanceolate spines; hinge margin rather short, but slightly elevated, the dorsal angle very obtuse; anterior edge elongated, (in the adult, retuse) extremity obtuse; ventral edge strongly incurved; umbonal ridge prominent, edged posteriorly with a paler ray; posterior extremity extremely short and obtuse; within tinged anteriorly with purple.  $1\frac{1}{2}$ .. $2\frac{3}{4}$ .—*General shape of M. Modiolus.*

*M. ARCUATULA* *Nobis* Z. P. 1844. Narrow, elongated, subarcuated, compresssed, smooth, very fragile, under a greenish fulvous epidermis, marked on the anterior slope with transverse ziczac purplish-brown streaks; the umbonal ridge elevated and whitish, often edged anteriorly with purplish brown; hinge-margin elongated, not elevated, no dorsal angle; anterior edge short, much arcuated, the extremity dilated and rounded; ventral margin incurved, posterior end prominent, rounded, much attenuated, with a few radiating costellæ; within, tinged with purple anteriorly.  $\frac{1}{2}$ .. $1\frac{1}{2}$ .—*Philippines.*

*M. PATAGONICA* *D'Orbigny MSS.* Oblong-subcuneiform, the beaks being all but terminal and the posterior end narrowed and obtuse; the anterior broad, obtuse and flat; hinge margin straight, somewhat elevated and elongated, the anterior edge in the adult instead of forming an angle, running at first almost in the same line with it, and then suddenly sloping in a semicircle to the nearly straight ventral margin; cuticle greenish olive; interior tinged with purple, 1..2—*Patagonia.*<sup>1</sup>

#### SECTION B.

*Smooth, oblong-subtrapeziform. the shape being intermediate between M. Modiolus and M. Lithodomus.*

*M. VAGINA* *Lam.* 7.—*E.* vol. 2. p. 569.—Subrhombic-oblong, subcylindraceous, white under a uniform yellowish chesnut, cuticle very thin, pellucid, nearly smooth, marked only with close concentric wrinkles; dorsal edge a little arcuated, elongated, and subparallel to the ventral; anterior extremity much rounded; posterior

<sup>1</sup> To this section belong likewise the *M. CASTANEA* of *Say* in the second and. *M. CAPAX* of *Conrad* in the seventh volume of the Journal A.N.S. of Philadelphia. Also the *PAIDEAUXII* of *Leach's Zoological Miscellany.*

end very obtuse, its edge sloping very obliquely to the ventral margin; umbones very wide, beaks touching and subterminal. *Tonga*.—1..2 $\frac{1}{4}$ .

*M. TRAPESINA*. *Lam.* 17.—*Del. t.* 13. *f.* 7. Ovate-subtrapeziform, moderately ventricose, thin, smooth, whitish under a yellow cuticle; beaks touching, oblique; ligamental edge convex, slightly raised: ventral incurved near the posterior termination (which is much compressed) and almost forming a rectangle with it.  $\frac{3}{4}$ ..1. *Cape of G. Hope?*

*M. Plicata*. *Lam.* 20.—*MYTILUS* *P. Gmel.* 3356.—*D. p.* 306.—*W. t.* 12. *f.* 14.—*Ch. f.* 733.—*E. t.* 221. *f.* 3. Rhomboidal, very thin, transparent, pale fulvous, rounded posteriorly, dilated and angulated anteriorly, transversely striated, with concentric pliciform wrinkles on the anterior extremity: beaks rather prominent and inflexed; silvery within.  $\frac{3}{8}$ ..1 $\frac{1}{4}$ .—*Nicobar Isles*.

*M. ELONGATA*. *Swainson, Ex. Con. 2nd Ed. p.* 31. *t.* 8. Transversely elongated, subrhombic, subcylindrical, the dorsal edge quite straight, anteriorly rather elevated, depressed and angulated so as almost to appear auriculated; white under a rich yellowish chesnut glossy smooth cuticle, a few transverse striæ at the rounded and attenuated posterior extremity; umbones broad, touching and much incurved.

*M. ARBORESCENS*—*MYTILUS* *A. Ch. f.* 2016, 7.—*D. p.* 306.—*W. t.* 12. *f.* 13.—*M. PICTA*. *Lam.* 8.—*Sow. G.—Reeve Sys. t.* 100 *f.* 1.—*E. t.* 221. *f.* 2. Subcylindrical, thin, becoming but slightly broader anteriorly; ligamental edge very long, scarcely at all raised; the ventral not incurved, nearly straight; cuticle pale yellow, divided diagonally into two portions, of which one is plain and the other ornamented with minute blackish or dark brown irregularly branched lines. 1..2 $\frac{1}{4}$ .—*W. Indies*.

*M. CASTANEA* *Gray Ann. Phil.* 25.—*W. S. 2. MYT. f.* 2.—*Rump. t.* 46. *f.* *E.—List. t.* 1055. *f.* 9.—*M. SILICULA*. *Sow. G.—Reeve Sys. t.* 100. *f.* 2. Closely allied to *Vagina*, but altogether larger, much broader and when full grown by no means dilating anteriorly as in that species, the ventral edge being all but straight and subparallel to the dorsal in the adult; cuticle rich chesnut. 2..3 $\frac{1}{2}$ .—*Amboyna, Philippines*.

*M. CUNEIFORMIS*. *Nobis Zool. P.* 1844. Elongated, wedge-shaped, moderately ventricose, thin, smooth, yellowish chesnut with a very indistinct paler ray running along the posterior side of the umbonal ridge; posterior side narrow, rounded and very short; dorsal edge elevated, straight, very elongated, forming an angle with the nearly straight anterior margin, which slopes suddenly to the compressed and rounded anterior extremity: ventral edge scarcely incurved; ~~thin~~ narrow: inside nacreous white. 1 $\frac{1}{2}$ ..4. *Philippines*.



## SECTION C.

*Lithodomi. Elongated subcylindrical, dorsal and ventral edges subparallel; beaks terminal or subterminal: no elevated dorsal angle.*

M. PULEX. Lam. 6. Very small, oblong subtrapeziform, subcylindrical nearly smooth, depressed at the broader end, brownish or violet ash colour  $\frac{3}{4}$ .—*New Holland*. "Not so arcuated as List, t. 359. f. 197."

M. CINNAMONEA. Lam. 18. MYTILUS C. Ch. f. 731.—E. t. 221. f. 4. Subcylindrical, ventricose, curved, retuse at each end: beaks slightly prominent; cuticle yellowish chesnut. *Mauritius*.  $1\frac{1}{2}$ .

M. SILICULA. Lam. 19. Oblong, subcylindrical, straight, with merely the lines of growth, both extremities obtuse the anterior retuse; white with the cuticle very dark chesnut. *New Holland*. "Probably a less curved variety of the last." (Desh) The original specimen in the museum is certainly very like *Cinnamoneus* and *Fuscus*.

M. SEMEN. Lam. 21.—MYTILUS CORALLIOPHAGUS. Ch. f. 752. D. p. 305.—E. t. 219. f. 4. Angulated oblong, obtuse posteriorly and attenuated at the anterior extremity, with delicate longitudinal striæ, the margin partly denticulated.  $\frac{3}{4}$ .—*East Indies*?

M. LITHOPHAGA. Lam.—MYTILUS L. Lin. Sys 1156.—D. p. 303. Elongated, cylindraceous, straight, more tumid towards the beaks, extremities obtuse, with strong longitudinal striæ on one portion of the shell decussating the lines of growth. Var. A. Ch. f. 730.—List. 427. f. 268.—E. t. 221. f. 6, 7.—MODIOLA. L. Phil. p. 71.—LITHODOMUS DACTYLUS. Sow. G. f. 1.—Reeve Sys. t. 99. f. 1.—Cuticle chesnut, the longitudinal striæ direct and slightly undulated. *Mediterranean*.—Var. B. MYT. LITHOPHAGUS. Lin. mus. Ulrie. 539.—Ch. f. 729.—E. t. 221, f. 5. Narrower, the cuticle black. 3.—*Mediterranean and W. Indies*.—The variety (if indeed not a distinct species.) *E. Indies*.

M. CAVDIGERA. Lam. 23.—E. t. 221. f. 8.—*Le Ropan*. Adans. Sen. t. 19. f. 2.—MYTILUS ARISTATUS D. p. 203.—W. t. 12. f. 8. LITHODOMUS C. Sow. G. f. 4.—Reeve Sys. t. 99. f. 4.—L. STRIATUS. Lin. Tr. 8. t. 6. f. 3, 4, 5. Elongated, straight, smooth, very thin, subcylindrical, nacreous under the fulvous yellow epidermis, which is usually covered with a whitish calcareous coating strongest at the anterior extremity and produced beyond the shell in two narrow beak-like appendages which cross each other; beaks obsolete; ventral edge nearly straight; dorsal very slightly elevated as far as the termination of the ligament, and sloping obliquely thence to the obtuse anterior extremity.  $2\frac{1}{2}$ .—*Senegal*.

M. ATTENUATA. Desh. in Lam. vol. 7. p. 28.—LITHODOMUS CAVDIGERUS VAR. Sow. G. f. 3.—Reeve. t. 99. f. 3.—Elongated and narrow, subcylindrical, obtuse at the beak, at the other extremity attenuated and terminated by calcareous appendages which do

not cross each other: white, thin, fragile and scarcely pearly under a greenish brown epidermis. *Peru and Chili in stones. Closely allied to the last.*

*M. LEVIGATA.* (not of Gray) LITHODOMUS L. Quoy. *Ast. t. 78. f. 17, 8.* Elongated subcylindrical straight, thin, smooth with a greenish brown epidermis; a lateral oblique furrow; within brownish white, pearly with a violet stain at the uncinated anterior extremity.—*In Madreporos.—New Guinea.*

*M. FUSCA.* Desh. in *Lam. vol. 7. p. 28.*—MYTILUS. F. W. *t. 12. f. 12.*—*Gmel. 3359.—D. p. 306*—MODIOLA CINNAMONEA. *Var. Lam. 18.—List. t. 359. f. 197.* Small subcylindrical, much curved and finely striated; obtuse and heart shaped at the posterior extremity, rounded at the other; the beaks recurved and slightly prominent; white and thickish under a rich brown cuticle.  $\frac{3}{4}$ —*Indian Ocean in Madreporos. Very like Cinnamonea.*

*M. TRUNCATA.*—LITHODOMUS. T. Gray in *App. to Dieffenbach. Zeal.* Oblong, subcylindrical, thin; short and roundly truncated posteriorly, contracted in the middle, and tapering anteriorly; cuticle dark brown; umbones rather prominent, inflexed; within purplish, nacreous. *New Zealand. Easily recognized by its truncated extremity, and prominent umbones. The front portion is usually covered with regular green laminae which are perhaps Alga.*

*M. OPIFEX.* Say. *Jour. A. N. S. Philad. 2. p. 369. t. 19. f. 2.* Oval, reddish brown, ventral edge slightly contracted behind the middle, from which spot to the beaks the surface is blackish and transversely wrinkled; sides longitudinally striated, except the anterior cordate hinge margin, which is flattened and covered with a stratum of compact sand: anterior tip equally arcuated above and below: iridescent within. 0, 23..0, 47.—*Minorca.*

*M. CANALIFERA.*—LITHODOMUS C. *Nobis Zool P. 1844.* Subcylindrical, rather elongated, subarcuated, covered with a smooth rufous or reddish yellow epidermis, which is concealed by a calcareous coating, which on the umbonal slope assumes the appearance of four slightly elevated radiating walls roofed by another layer of calcareous matter, and terminating in three narrow channel-like apertures at the anterior extremity: posterior end rounded, anterior extremity attenuated and obtuse: dorsal and ventral edges subparallel, the former incurved, the latter slightly convex: anterior surface divided by an oblique furrow from the more elevated posterior.  $\frac{1}{2}$ ..1 $\frac{1}{2}$ .—*S. America.*

*M. PLUMULA.*—LITHODOMUS P. *Nobis Zool. P. 1844.* Extremely like the last, but the anterior extremity less obtuse, and the calcareous cellular coating of the umbonal ridge, resembling a ruffled feather in its arrangement, being composed of elevated thin ridges which slope anteriorly and diverge from their point of junction.

one half to the anterior dorsal, the other to the ventral margin  $\frac{1}{10}$ . . 2.—*Philippines*.

## SECTION D.

*With radiating striae, ligamental edge forming an angle with the anterior margin.*

M. SULCATA. Lam. 9.—Bowd. *El. Biv.* f. 64.—ARCA MODIOLUS. Lin. 1141—D. p. 231—Ch. f. 754—W. t. 9. f. 15—E. t. 220. f. 2.—MYTILUS CUBITUS? Say. *Jour. Philad.* 5. Oblong, the hinge margin short, nearly straight; much raised and forming a distinct angle with the anterior sinuous one; bluish white under a yellow epidermis with slightly raised radiating sulci diverging at the obtuse anterior end, elsewhere covered with very fine longitudinal striae; ventral edge nearly straight; beaks terminal; within white tinged with violet and the hinge margin crenulated.  $1\frac{3}{8}$ .—*W. Indies*.

M. PLICATULA. Lam. 10.—Som. *G.*—Reeve *Syst.* t. 101. f. 7.—Gould *Mar.* p. 125. f. 87.—MYTILUS DEMISSUS. D. p. 314.—W. t. 12. f. 30.—E. t. 220. f. 5.—List. t. 356. f. 193.—MOD. SEMICOS-TATA. Conrad (*vide Gould*.) Much elongated, moderately ventricose, posterior end compressed, prominent, and very narrow: ligamental edge somewhat raised and much produced; ventral strongly incurved; anterior slightly convex; surface covered with raised sulci (which in the adult are forked at their termination) chiefly prominent in front of the umbonal slope which is obtusely angulated near the depressed umbones, and becoming obsolete posteriorly, nacre pearly white, cuticle varying from ochraceous to greenish bronze.  $1\frac{1}{2}$ . .  $3\frac{1}{4}$ .—*N. America*. The hinge margin is not crenulated.

M. PURPURATA Lam. 13.—List. t. 366. f. 206.? Ovate with the hinge margin forming an elevated angle at its termination, longitudinally grooved, deep purple except posteriorly and near the beaks, where it is whitish; within purple, the margin crenated and the hinge margin with many teeth. 1.—*Chili and Peru*. In the described specimen of the Museum of Paris, the raised sulci seem almost crenulated by the striae of growth and the dorsal angle is not prominent.

M. COSTULATA. Risso.—Phil. p. 70. t. 5. f. 11. Minute, oblong, smooth in the middle, with longitudinal riblike striae at the sides, (the posterior sometimes though rarely smooth) reddish chesnut; anterior side closely bearded, the beard composed of long yellowish fibres; ventral edge scarcely crenated at the sides.  $\frac{1}{4}$ . .  $\frac{1}{2}$ . *Sicily*. "Allied to *Discrepans* (our *Tumida*) but much narrower and more tumid, the posterior side still smaller, the ligament very thick and strong with the margin adjacent to it deeply crenated on each side." The figure represents this shell with a distinct dorsal angle at the extremity of its nearly straight hinge margin, and the ventral edge convex in the middle.

**M. STRIATULA.** *Nobis Zool. Proc.* 1844. Elongated-oblong, narrow, subarcuated, subcylindrical, covered with an olive epidermis which is usually rayed anteriorly with narrow black streaks; posterior side short, with three or four rather distant radiating ribs; anterior side produced and rayed with most delicate striæ, which at their extremity become slightly elevated and divaricate; intermediate space smooth; dorsal margin scarcely elevated and very slightly convex, forming a very indistinct angle with the convex anterior which is nearly equal to it in length; umbones depressed; within purple, hinge crenated at the end of the ligament. *Philippines*  $1\frac{3}{8} \times 1\frac{1}{2}$ .

**M. SUBRAMOSA** *Nobis Zool. P* 1844. Elongated oblong, narrow, moderately ventricose, covered anteriorly with forked and subramose rather large and moderately distant depressed ribs, which on passing the very distinct (and in the young subcarinated) umbonal ridge, become fine striæ, disappear and leave the posterior ventral side smooth; hinge margin very short (crenated at its extremities within) forming a distinct but little elevated angle with the anterior which is first incurved, nearly parallel with the ventral, and then slopes suddenly in a convex line to the incurved ventral, causing the compressed and produced anterior extremity to appear obtusely biangulated; beaks narrow, incurved, all but terminal; within, tinged anteriorly with purple.  $\frac{1}{2} \times 1\frac{1}{2}$ .—*Mindinao*.

SECTION E.

*With radiating striæ. No dorsal angle.*

**M. IMPACTA.**—*Herman Naturf.* 17. t. 3. f. 5 to 8.—*D.* p. 320. *W. t.* 12. f. 40.—**MYT. AUSTRALIS.** *Fabr. in Dankse V. S. S.* 3. (1778)—*Ch. f.* 768.—**MYT. COR.** *Martyn U. C. t.* 77.—(*Born. vignette p. 121.*) **MODIOLA DISCORS.** *Lam.* 16.—*E. t.* 204. f. 5. Oval, ventricose, under an yellowish olive cuticle of a reddish ash colour, a few distant rounded raised longitudinal sulci at the posterior end, and numerous grooves and very depressed costellæ anteriorly; intermediate area glabrous and very convex, with the ventral edge swelling out there; umbones tumid.  $1\frac{1}{2}$ —*S. Seas*.

**M. TUMIDA.\***—**M. DISCORS** *Macgyl. Ab.* p. 239.—*Turt. Biv. t.* 15. f. 4, 5.—**MYTILUS DISCORS** *Mont. p.* 167.—*D.* p. 319.—*W. t.* 12. f. 39.—*Turt. C. D. p.* 112.—*Da. Cos. t.* 17. f. 1.—*Pol. t.* 13. f. 15.—**MOD. DISCREPANS.** *Lam.* 15.—*Phil. p.* 70 (*from his own specimen, certo*) The same general appearance as the last, but the epidermis light green, the posterior sulci numerous close and little raised, and the umbonal ridge more elevated.  $\frac{1}{2}$ .—*England*.

**M. DISCORS.** *Son. G.*—*Reeve Syst. t.* 100. f. 4.—**MYTILUS. D.** *Lin. Sys. Ed.* 12. p. 1159.—*Fabr. Four. Grænl.*—*Ch. f.* 764. a. b.—**MYT. D. var ARCTICA.** *Fabr. Dankse V. S. Skriv. 3. t. 3. f.* 1, 4, 6.—**M. LÆVIGATA** *Gray in Sup. to Parry—W. S. t. 2. f.* 5.

Ovate-elliptical, thin, convex, posteriorly with a few radiating rib-like striæ, elsewhere smooth and glossy; the anterior surface raised and dilated, its end rounded; cuticle brownish, or yellowish.  $\frac{3}{4}$ . . 1. *North Pole—General shape of Impactus.*

M. DISCREPANS\* *Gould Mas. p. 129—Turt. Biv.—MYTILUS D. Mont. p. 169—D. p. 319—W. t. 12. f. 38.* Oval-oblong, compressed, greenish fulvous, becoming green at the edges, thin; anterior area marked with minute radiating simple striæ and elevated as it were above the smooth central surface; posterior end with a few rather distant radiating grooves, obtuse; dorsal line elevated and arcuated; ventral edge with a distinct sinus at the commencement of the anterior area, and convex in the middle of the central area.  $\frac{3}{4}$ .—*N. Seas.*

M. NIGRA\* *Brit. Mar. Con.—MYTILUS DISCREPANS. Mont. Sup. t. 26. f. 4.—Som. G. f. 3. (good)—Reeve Syst. t. 100. f. 3.—Ch. f. 767.—M. DISCORS VAR SUECICA Otho. Fab. Dansk V. S. Sk. 3. (1788.)* Oblong or elongated-oblong, arched, rather thin, convex, with a blackish cuticle becoming tawny towards the edges; anterior half of the shell not elevated but covered with numerous raised subcrenulated sulci, the central area smooth and the posterior end with several radiating costellæ, and rather prominent; hinge margin but slightly elevated, much arcuated; ventral edge incurved in the middle, dilated anteriorly; beaks obtuse.  $1\frac{1}{2}$ .—*Sweden & Scotland*<sup>1</sup>

M. FABA.—*MYTILUS F. Gmel. 3359.—Ch. f. 761.—W. t. 12. f. 41.—D. p. 320.—MOD. ARCTICA. Leach in Ross Voy.* Roundish-oval, ventricose, white under a reddish or olive cuticle, with rather distant radiating striæ: inside pearly, the ventral edge rounded and crenated.  $\frac{1}{2}$ .—*N. Seas.*

M. PECTINULA *Gould Mass. f. 85.* Small, ovate, ventricose, with about forty equal rounded radiating ribs: epidermis dark gamboge yellow; beaks prominent, projecting as far as the posterior margin: within livid or leaden pearly.  $\frac{1}{2}$ . .  $\frac{1}{10}$ .—*N. America.*

M. NEXA. *Gould. Mass. p. 128. f. 86.* Small, ovate, thin, rusty brown with shades of olive, sculptured by a network of very minute crowded lines of growth and very numerous fine indented radiating lines which are obsolete in the middle and strongest anteriorly, where a very fine line divides each into two; while above these on the compressed portion a beautiful network of hexagonal indentations is formed: beaks prominent and placed considerably before the posterior end: nacre livid.  $\frac{3}{10}$ . .  $\frac{1}{10}$ .—*U. States.*

<sup>1</sup> I observed in the Museum at Paris under the name of *DEPRESSA* a species from Newfoundland, closely allied to this, but quadruple the size, less narrow, the ventral edge scarcely incurved, and the radiating striæ distinctly crenulated and infinitely more crowded and delicate.

**M. GLANDULA.** *Totten in Sil. J. t. 26. f. 3.*—*Gould Mass. f. 87* Obliquely rounded oval, rather inflated, brownish yellow, covered with minute lines of growth crossed by minute and crowded radiating lines, ligamental edge very short: beaks small and separate; within nacreous white: margin crenulated.  $\frac{2}{3}$  .  $\frac{1}{2}$ .—*U. States.*

**M. STRIGATA.** *Nobis Zool. Pr. 1844.* Small, oblong, fragile, pellucid, moderately convex, pale green with chocolate ziczac streaks, anterior side with radiating striæ, posterior with a few longitudinal riblets; anterior edge convex: no dorsal angle.  $\frac{1}{4}$  .  $\frac{1}{2}$ . *Phillippines.*—*Not unlike Discrepans in outline.*

**M. CICEBULA** *Moller Index Mol. Grænl.*—**MYTILUS DECUS-SATUS?** *Mont.*—*Brit. Mar. Conch. f. 1.*? Minute, subglobular, thin, subœquilateral, greenish yellow, slightly roughened by a decussation of minute radiating and concentric striæ: margin finely crenulated.  $\frac{1}{3}$ .—*Greenland. Longer than broad.*<sup>1</sup>

#### MYTILUS.

*Longitudinal, equiwalve: acute at the apex, affixed by a Byssus; beaks acute, nearly straight and terminal; hinge lateral, generally without teeth; ligament marginal, and partly internal; muscular impression elongated, clavate and sublateral.*

*\* With radiating sulci.*

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<sup>1</sup> To this section belongs the **MYTILUS DECUS-SATUS** of Montagu which must be compared with the above species.

See too, the **M. LITURATA** of Menke's Synopsis, the **VITREA** of Moller (*Moll. Græn.*), the **SINUOSA** of King (*Z. J. 5.*) the **CUTELLUS** of Deshayes (*Rev. Cuv. 1839*) and the **CHENUI** of Recluz (*Rev. Cuv. 1842.*) which not being acquainted with, we are unable to put into any of our sections.

The shell from which the genus **MYTILIMERIA** of Conrad was constituted, is evidently a new and distinct species. The situation of the genus in the general system of nature, we know not; its present station being temporarily assigned to it, in accordance with Mr. Conrad's statement, that it is allied to *Mytilus* and *Modiola*.

#### MYTILIMERIA.

*Equiwalve, suboval, thin; beaks subspiral: hinge edentulous, with a slight linear cavity under the beaks: muscular impressions two, rather small: pallial impression with a broad obtuse sinus.*

**M. NUTTALII.** *Conn. Jour. Philad. 7. p. 247. t. 19. f. 5.* Sub-oval, inflated, thin, fragile; white with a very thin yellowish deciduous epidermis. 1. *California in sponge. The single valves have the appearance of Aplysiæ.*

*M. MAGELLANICUS.* *Chem.* 742, 3.—*Lam.* 1.—*E. t.* 217. *f.* 2.—*M. BIDENS.* *D. p.* 313.—*W. t.* 12. *f.* 28.—*Knorr.* 4. *t.* 30. *f.* 3 Oblong with thick raised longitudinal wavy sulci; shell thick, white at the beaks, becoming purple at the posterior ventral, cuticle purplish brown or maroon; hinge margin forming a more or less distinct angle with the anterior; posterior ventral edge usually nearly straight; beaks acute and scarcely curved; hinge with but one tooth: margin crenated. 5. *Magellan. Beaks slightly channelled within.*<sup>1</sup>

*M. EROSUS.* *Lam.* 2. Elongated-oblong, angulated, scarcely dilated and usually eroded at the dorsal angle, anteriorly depressed: dark purple both within and without: crowded concentric striæ decussating the radiating sulci. 2½.—*New Holland, generally deformed.*

*M. HIRSUTUS.* *Lam.* 5. Subtriangular, gaping and rather flattened posteriorly, the longitudinal grooves fine, covered with a reddish brown bearded epidermis: ligament broad, beaks much curved and well defined, the margins crenulated: inside livid but iridescent. *Variety.* Narrower and the posterior ventral edge quite flat. 1¼. *New Holland.*

*M. EXUSTUS* *Lin. Mus. Ulric.* 540.—*Lam.* 6.—*D. p.* 308.—*List.* 366. *f.* 206.—*E. t.* 220. *f.* 4. Oblong, with numerous fine radiating slightly elevated sulci, which are at least as narrow as the interstices, of a livid purple under a glossy yellow epidermis, covered by which its colour is that of scorched paper; hinge margin short, forming a distinct angle with the anterior: posterior ventral edge swelling out near the rounded beaks: a few tooth-like crenulations at the extremity of the hinge margin: hinge with two teeth in one valve. *VAR.* Narrower and scarcely angulated. 1½.—*W Indies.*

*M. BILOCULARIS.* *Lin. Mus.* 540.—*Lin Sys.* 1156.—*D. p.* 307.—*Lam.* 7.—*Ch.* 736. 7.—*E.* 218. *f.* 5.—*W. t.* 12. *f.* 17.—*Gichon-GONIA B. Wieg. Arc.* 1837. *p.* 48. Ovate triangular, posteriorly flattened (incurred by age); hinge margin short, with, internal tooth-like crenations; colour variable, under a bright green epidermis, often purplish, blue or dull crimson, rayed with numerous

<sup>1</sup> *M. Deshayes* considers as varieties of this species

*M. CRENATUS* *Lam.* 3.—*E.* 217. *f.* 3.—*Sow. G. f.* 3. Ovate-triangular, thin, with radiating sulci, purplish violet, white at the posterior ventral edge: margin crenated. 3¼.—*Carolina.?*

*M. DECUSSATUS.* *Lam.* 4.—*Fav. t.* 50. *f.* R. 1. Ovate-triangular, longitudinally sulcated, decussated by unequal transverse striæ; livid purple under a blackish epidermis; beaks acute, curved and channelled on the inner side. 4½.—*America.*

raised longitudinal sulci which are slightly subcrenulated: beaks acute; within blue or purplish, a shelly plate uniting the two sides at the hinge which is provided with two denticles in each valve under the apex. 2. *Indian Ocean and New Holland. A downy posterior beard in the young.*<sup>1</sup>

M. OVALIS. Lam. 8.—*E. t.* 219. *f.* 3. Small, oval, brownish violet, not at all angulated, with radiating crenulated sulci; beaks obtuse, inclining to one side and diverging. 1.—*Peru.*

M. USTULATUS. Lam. 9. Small, ovate-angulated, yellowish-brown, with radiating sulci which on the anterior side diverge; beaks short and rather obtuse.  $\frac{2}{3}$ .—*Brazil. Dorsal angle distinct. The specimens in the Parisian museum bear a strong resemblance to the species usually (erroneously) termed STRIATULUS in cabinets of British shells.*

M. DOMINGENSIS. Lam. 10.—*Del. t.* 13. *f.* 11. Small, ovate oblong, posteriorly depressed, purplish violet, longitudinally sulcated; beaks obtuse and shortened.  $\frac{2}{3}$ .—*St. Domingo.*

M. SENEGALENSIS. Lam. 11.—*Del. t.* 13. *f.* 10.—*l'Aber Adan. Sen. t.* 15.—M. PUNICEUS. Gmel. 3362.—*D. p.* 313.—*W. t.* 12. *f.* 29. Small, narrow, ventricose, usually purplish except at the flattened and sinuated posterior margin; with raised longitudinal subcrenulated sulci which are scarcely so wide as the interstices: beaks incurved moderately acute, not touching; hinge margin long, not crenulated internally.  $\frac{2}{3}$ .—*Senegal. Gmelin's name although it has priority, is so inexpressive of its real character (for it is rarely scarlet or crimson) though undoubtedly the l'Aber of Adanson from whose description the Puniceus was constituted, that I have preferred leaving the name which Lamarck assigned to this species unaltered. Possibly this shell is the long sought for Bidens of Linnæus.*

M. NIGER. Gmel. 3362.—*D. p.* 309.—*W. t.* 12. *f.* 20.—*Le Dotel Adans. Sen. p.* 211. *t.* 15. *f.* 3. Suboval, compressed, thin, black, with crowded minute radiating striæ, posterior ventral edge

<sup>1</sup>Add likewise the TICHOGONIA EXCISA. Weig. Arch. 1837. Oblong triangular; angle of the anterior side rounded off, obsolete; deeply striated, striæ prominent, forked in aged specimens; brown under a yellowish epidermis: a laminar plate (with a sinus cut out of it) and numerous small denticles at the apex. 19 $\frac{1}{2}$ ..11. lines. *Indian Seas?*

T. VIRGATA. Wieg. Arch. 1837. p. 49 Oblong-triangular, purplish black, ribs divided at their termination into 3 or 4 smaller ones almost evanescent at the margin: within violet, a laminar plate at the apex, teeth solitary and external, occupying the sinus of the other valve. 20..9. lines. *Dead Sea?*

See too the T. WIEGMANNII. (VIII. 3. t. 2. f. 6 to 10.), and T. KRAUSSII. (VIII. 3. t. 6. f. 1 to 6.) in Kusters edition of Chemnitz.



not at all flattened nor incurved; hinge margin short, not forming a distinct angle with the anterior ventral: within dark purple, margin crenulated hinge with few denticles. 1.—*Senegal*.<sup>1</sup>

*In my specimen there were 3 denticles in one valve and 4 in the other, the beaks were rather obtuse.*

M. POLYODONTUS. *Quoy. Ast. t. 78. f. 15. 6.* Oblong, angulated, reddish, adorned with curved brown concentric lines, with coarse granular waved longitudinal ribs: within violet, the hinge margin with 8 or 10 nearly equal denticles at the extremity of the ligament. *New Zealand. Not unlike Magellanicus.*

M. HAMATUS. *Say. Jour. Philad. 2. p. 265.—Amer Conch. t. 50.* Ovate-subtriangular, not very thick, moderately convex, with very numerous longitudinal subcrenulated diverging elevated sulci, which are about as wide as the interstices and often forked at their extremities; epidermis yellow, outer surface pale purplish brown, inner rich purple, whitish at the margin which is strongly crenulated; hinge margin convex, of a moderate length, not forming a distinct angle with the anterior ventral: posterior side much incurved and somewhat flattened; beaks much inclined inwardly. *Not unlike Bilocularis exteriorly. 1½. Gulf of Mexico. New Orleans.*

M. AREALIS. *Menke Synop. Met. Moll.* Oval-triangular, anteriorly angulated, posteriorly straight; brownish black with longitudinal grooves on both sides, the central area with most delicate transverse triæ. 6..11. lines. "*Found along with Exustus.*" *Can this be the same shell with the Lateralis of Say? I have never seen either, but the descriptions are not at variance.*

M. GRANULATUS. *Nobis. Zool. Proc. 1844.* Triangularly-oval, thick, extremely tumid, ochraceous yellow, with numerous distinct rounded granulated radiating ribs, which are narrower than their interstices, usually bifurcated at their extremities, becoming considerably narrower at the very flat and broad posterior slope; beaks greatly incurved: hinge margin short and convex, forming a rounded off angle with the very arcuated and dilated anterior margin; ventral edge moderately incurved: within uniform nacreous white, the margin strongly crenulated and the hinge with two teeth in one valve, a single one in the other.  $\frac{1}{2}$ .. $\frac{3}{4}$ . *S. America.*

**\*\*Without radiating sulci.**

M. LATUS. *Lam. 13.—E. t. 216. f. 4.* Oblong ovate, pale

<sup>1</sup> This species is not unlike Schrolers figure of STRIATULUS (*Em. t. 9. f. 10. copied W. t. 12. f. 19.*) I have not seen the species which is professedly that of Linnæus. *Mant. 548.—D. p. 308.*

<sup>2</sup> To this section belong also—M. BIFURCATUS. *Conr. Jour. Philad. 18. f. 14.*—M. CALIFORNIANUS. *Conr. J. Philad. 7. p. 242.*—M. LATERALIS. *Say. (if it be not a Modiola) Jour. Philad. 2.*

violet under its epidermis, and closely striated concentrically : posterior side straight, anterior obtusely angulated, beaks white and curved, furnished with an internal tooth in each valve.  $6\frac{1}{2}$ . *S. America?*

*M. ZONARIUS.* Lam. 14.—*E. t.* 217. *f.* 1. Elongated-oblong, narrow, much curved, antiquated, whitish with concentric violet zones : posterior side flat, sinuated, and white : within, white with the margin usually violet. *The layers of growth are usually so raised as to render the surface scalariform.*

*M. CANALIS.* Lam. 15.—*List. t.* 360. *f.* 199. Oblong smoothish, bluish black, anterior margin channelled, posterior white flattened and nearly straight : beaks slightly divergent. VAR. *E. t.* 215. Broader and the beaks shorter. 5. *Jamaica.*

*M. UNGULATUS.* Lam. 16.—*Humboldt and Bonpl. Zool. t. f.*—*Gualt. t.* 91, *E.*—*Ch. f.* 756 ?—*W. t.* 12. *f.* 23 ? Large, semi-ovate, blackish violet, curved anteriorly, straight and flattened posteriorly : within white, margined with violet, a tooth or two under the beaks  $6\frac{1}{2}$ . “*Not presenting the posterior incurvation of the following species*” *This is not the Ungulatus of Linnæus’ system. (p. 1157.) for he states that the posterior margin is inflexed. His own specimen seems a monstrosity bearing much resemblance to Lister. 369. to which he refers in his M.S.S. It is not however that species.*

*M. VIOLACEUS.* Lam. 17.—*E. t.* 216. *f.* 1.—*Knorr. 5. t.* 25. *f.* 1. Semi ovate, smooth, violet, the beaks and posterior side white, somewhat spotted with violet : anteriorly curved, posteriorly flattened inflected and subsinuated : three internal teeth under the beaks.  $4\frac{1}{2}$ . *Atlantic. &c.*

*M. VIRIDIS.* Lin.—*M. VIRIDIS CHINENSIS* Chem. 11. *f.* 2022, 3. (good)—*List. t.* 363. *f.* 204.—*M. OPALUS.* Lam 18. Elongated, subplanated, moderately convex, or rather depressed, rather thin ; umbonal ridge obsolete, epidermis brown, becoming bright green at the base, and at the successive stages of growth more or less tinted with that colour : posterior side not at all flattened, its margin incurved ; anterior arcuated and never at all angulated ; ligamental edge convex and rather short : interior brilliantly opaline ; hinge with one not prominent tooth in each valve. YOUNG.—*M. VIRIDIS.* Lin. *Mus. Ulric.* 542.—*Lin. Sys. ed.* 12. 1158. Ovate, membranaceous, posterior edge not incurved, epidermis quite green : beaks tinged with crimson. *South Seas : China ? From the specimen of Linnæus. I am certain of the correctness of synonyms.*<sup>2</sup>

<sup>2</sup> Probably the young is the same species with *M. SMARAGDINUS*. *M. Deshayes* states, that that species is the same as *Opalus* which I cannot doubt is the *Viridis*. I give however its characters.

*M. SMARAGDINUS.* Lam. 19.—*Ch. f.* 745. Subtriangular, flat-tish, the posterior side straight and the epidermis green : edge with two teeth in one valve, one in the other : nacre opaline. 4.—*India.*

*M. PERNA.* Lam. 20.—*MYA*-P. Lin 1113?—Knorr 4. t. 15. f. 4.—Born t. 7. f. 7?—Narrow and elongated, ventricose, straight, under its epidermis, livid purple becoming rich purple when polished, (the shell is generally obtained in that state from being almost always worn and eroded) except at the flattened posterior side which is white and almost running in a straight line to the base; hinge margin very long; within dark purple anteriorly, pearly white posteriorly; hinge with two strong teeth in one valve; a single acute one in the other.  $1\frac{1}{2}$ . . 4. Oran. The epidermis of aged specimens is brownish black, of adult, rufous or chestnut near the ventral edge, and greenish fulvous with arrow-headed chestnut or dark markings toward the beaks—It is not improbable that this may prove the same species as the next.<sup>2</sup>

*M. APER.* Gmel. 3358.—Lam. 21.—*M. UNGULATUS.* VAR. *D.* p. 310.—Bl. t. 64. f. 2.—Ch. f. 739. to 41.—Kn. 4. t. 15. f. 5.—E. t. 218. f. 1. Oblong, triangular, dilated at the margin, with zig zag lines under a greenish fulvous epidermis, tumid posteriorly near the beaks: hinge with two teeth in one valve and one in the other. Barbary &c. 4 $\frac{1}{2}$ .

*M. ACHATINUS.* Lam. 22. Oblong-triangular, with a reddish-fulvous cuticle, compressed and somewhat angulated anteriorly and rather tumid posteriorly: internal nacre of a brilliant livid violet colour. 4. Brazil.<sup>3</sup>

<sup>2</sup> M. Deshayes considers that this is the same species with the *M. Elongatus* of Chemnitz. (f. 738.—W. t. 12, f. 25.—E. t. 219. f. 2.—*MYTILUS PERNA.* D. p. 312.—*MYA* P. Schroet. Ein. t. 2. f. 7.) Lamarck's specimen of his *ELONGATUS.* (Lam 12.) is certainly the same as those from which I have drawn my description, many individuals of which agree perfectly with his description of *M. Perna*—But the locality of Chemnitz's species (*Magellan*) and the evident projection of the posterior side, renders it possible that his shell at least is a different species.

<sup>3</sup> Lamarck with some doubt refers to the *M. LATUS.* of Chemnitz for a figure of this species. Should the synonym prove correct (which I confess I doubt, as I have seen a Brazilian specimen well agreeing with the description of *Achatinus*, and to all appearance distinct from the New Zealand species) the prior name of *CANALICULUS.* (MARTYN. U. C. t. 78.—W. t. 12. f. 47.—*M. LATUS.* Ch. f. 747.—*D.* in part. p. 311.) must be restored. Of this latter shell there are two varieties. The one elongated and covered with a blackish cuticle, which becomes of a bright verditer green at its edge; and internally white, with a purplish tint on its submarginal muscular impression; the other, more solid much broader and rounded, the cuticle olive and the internal nacre near the musculars car, of a purplish brown.

**M. UNGULARIS.** *Lam.* 23.—*E. t.* 216. *f.* 3?—Semiovalate, anteriorly dilated, rather thin, angulated and compressed; posterior edge nearly straight but slightly bulging out towards the ventral; epidermis blackish with a larger or smaller portion tinged with fulvous; beaks small. 3. *India and New Holland.* *The specimen in the museum at Paris has the hinge margin short and straightish. In all probability the next species. (judging from the original specimens) is no more than a depressed variety of this shell.*

**M. PLANULATUS.** *Lam.* 24. Ovate rhombic, rather depressed, in part blue, part white, at the beaks acute; angle of the anterior side, central. 3. *New Holland.*

**M. BOREALIS.** *Lam.* 25—**M. EDULIS.** *Gould. Mas. f.* 82. Oblong, thick, rather tumid, bluish or purplish white, under a black epidermis; hinge margin rather long, forming an arch but never a distinct angle with the anterior ventral margin: posterior margin nearly straight, neither incurved nor flattened: beaks not approximate, inclining inwards, divergent: interior dark blue, white towards the obtuse beaks, hinge with a few denticles. *Newfoundland, N. America.*  $1\frac{3}{4}$ .. $3\frac{1}{4}$ . *Allied closely to Edulis, but I think distinguishable by the above characters. In adult typical specimens of our common mussel, the anterior margin is subparallel to the posterior; in Borealis. the shell being dilated anteriorly. this is by no means the case. It is likewise broader, with the surface less compressed both anteriorly, and posteriorly. The anterior ventral margin is well arcuated.*

**M. ANGUSTANUS.** *Lam.* 26. Narrow-oblong, subarcuated, obtusely angulated, bluish, the beaks inflected.  $1\frac{1}{2}$ . *"Shape of Edulis without its posterior swell: two small teeth."*

**M. CORNEUS.** *Lam.* 27. Oblong, thin, yellowish horn-colour, obscurely rayed, anteriorly curved; posterior side straight: with a brown spot.  $1\frac{3}{4}$ .

**M. GALLOPROVINCIALIS.** *Lam.* 28.—*Phil.* p. 72. *t.* 5. *f.* 12, 13. Ovate-triangular, bluish-black, anteriorly much compressed, the striae of growth strong and the epidermis usually glossy: dorsal margin straight and rather long, forming an obtuse but distinct angle with the anterior ventral, and thence sweeping in an uninterrupted curve to the ventral edge: posterior side depressed, white but of a yellowish brown when covered by its epidermis, edge nearly straight, very slightly incurved: much attenuated towards the acute beaks: hinge with a few denticles. *Mediterranean.*  $2\frac{1}{4}$ . *Variable in its breadth but easily to be distinguished from the next by its longer dorsal margin and distinct angle. The umbonal ridge is more acute.*<sup>1</sup>

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<sup>1</sup> The *DILATATUS* of Gray. (*W. S. t.* 2. *f.* 2.) seems allied to this species.

\**M. EDULIS*. *Lin. Sys.* 1157.—*Fab. Faun. Gr.*—*D.* p. 309.—*Lam.* 29.—*Turt. Dic.* p. 109.—*Dor. Cat.* t. 12. f. 5.—*Da. Cost.* t. 15. f. 5, (left hand figure)—*Ch.* f. 750.—*Knorr.* 4. t. 15. f. 1.—*E. t.* 218. f. 2.—*Macg. Ab.* p. 234.—*W. t.* 12. f. 22. (not good)—*Don.* t. 128. f. 1. Oblong, convex, nearly smooth, dark blue (sometimes with paler rays) hinge margin short, convex, forming a rounded off but evident angle with the anterior, which is but little arcuated, and subparallel to the posterior, the latter being nearly straight and slightly tumid towards the rather acute beaks; the base (or anterior ventral edge very obtuse): hinge with a few denticles.

*Variety?* *M. PELLUCIDUS*. *Pen.* 4. t. 63. f. 73. (*tolerable*)—*D.* p. 310.—*Don.* t. 81.—*Ch.* f. 755. (*tolerable*)—*W. t.* 12. f. 22.—*Mont.* p. 166. Tawny, with blue rays, pellucid, the dorsal angle more distinct.

*Var.* *M. INCURVATUS*. *Pen.* 4. t. 64. f. 74.—*Lam.* 33.—*W. t.* 12. f. 48.—*Lin. Tr.* 8. t. 3. f. 7. So distorted that the back is greatly arched, the posterior edge strongly incurved and the base dilated. 2. *The common mussel. N. W. Europe.*<sup>1</sup>

*M. HESPERIANUS*. *Lam.* 32.—*List.* t. 362. f. 202?—*Payr. Cat.* p. 68. t. 2. f. 5. Narrow, oblong, the sides nearly equal, rounded at the margin, dark blue with the beaks white, acute and somewhat curved: hinge with the teeth obsolete. 1½.—*Spain. I believe this is only a variety of Edulis.*

*M. CONFUSUS*. *Ch.* f. 753.—*M. LINEATUS* *Gmel.* 3359.—*W. t.* 12. f. 27.—*D.* p. 212.—*E. t.* 218. f. 4. Oblong-triangular, dilating from the apex, of a dirty yellowish green with oblique impressed lineoles decussating the transverse striæ: pearly within and the hinge with two teeth. ¾.—*Adriatic near Venice.*

*M. LACUNATUS*. *Lam.* 35. Incurved, dilated at the opposite extremity to the beaks which are acute: the middle of the posterior side indented with a hollow. ¾.—*Australia.*

*M. MINIMUS* *Poli.* 2. t. 32. f. 1.—*Desh. in Lam.* 7. p. 49.—*Payr.* p. 69.—*Phil.* p. 73. Small, elongated, narrow, arched in the middle, gibbous on the back, obliquely subcarinated, brown or violet blue, and finely striated concentrically; umbones minute and not quite terminal. *Mediterranean. According to M. Chantreaux is a diseased Edulis.*

*M. POLYMORPHUS* *Pallas.*—*Gmel.* 3363.—*W. S. t.* 2. f. 6.—*Reeve.* t. 102. f. 4.—*Sow. G. f.* 4.—*DREISSENA*. *P. Gray. Turt.* p. 301.—(*Ch. f.* 2028.) Triangular, inflated, smooth, carinated: the posterior face flat, concave, with a cleft for the byssus in the centre; yellowish olive with transverse ziczac stripes: within white and not

<sup>1</sup> *M. P. Hayes* states that the *M. ABBREVIATUS*. and *RETUSUS* (*Del. t. 14. f. 1.*) *Lam.* 30, 31. are varieties of this species.

pearly, a flat plate at the beaks uniting the sides of the shell.  $1\frac{1}{4}$   
*N. Europe, lakes and rivers.*<sup>1</sup>

M. STRIGATUS *Hinds Z. P.* 1844. Shape varying from subovate-oblong to elongated oblong, smooth, rather solid, cuticle thick, of a yellowish green, with broad darker green wavy stripes anteriorly: dorsal angle indistinct, posterior ventral edge not much compressed, beaks scarcely terminal: inside purple, nacreous: two small teeth in each valve.  $1\frac{3}{4}$ . *This beautiful shell varies peculiarly in its outline but may be easily recognized by its brilliantly coloured cuticle and the rich nacre of its interior. Were it not for its teeth, it might easily be confounded with the Modiolæ, as in some of its varieties, the posterior extremity projects beyond its beaks, and the dorsal and ventral edges are almost subparallel.*<sup>2</sup>

#### PINNA.

*Longitudinal, wedge-shaped, equivalve, gaping at the broader end, and pointed at the apex, with the beaks straight and acute; hinge lateral and without teeth; ligament marginal, linear, very long and somewhat internal.*

P. RUDIS *Lin.* 1159.—*D. p.* 324.—*Lam.* 1.—*Ch. f.* 773.—*E. t.* 199. *f.* 3.—*List. t.* 373. *f.* 214.—*Seba.* 3. *t.* 92. *upper figs.*—*W. t.* 12. *f.* 1. Large, elongated oblong, orange rufous, with but a few large elevated radiating sulci which are armed with a few extremely large and rather distant semitubular spines; dorsal edge the longer and nearly straight, the base (or anterior edge) rounded and running obliquely to the ventral margin. 18.—*Atlantic and American Seas.*<sup>3</sup>

<sup>1</sup> Add likewise the DREISSENA AFRICANA *Vanbeneden. in An. de Sc. Nat.* 1835. Triangular-oblong, slightly but regularly foliaceous, with two radiating crest like keels diverging from the rounded beaks: ventral edge without a notch for the byssus: within of a somewhat dull bluish white.  $\frac{1}{2}$ .—*Senegal.*

See too the D. CYANEA, *Vanbeneden. An. Sc. Nat.*

<sup>2</sup> To this section, belong likewise the M. VULGARIS. *Chem. f.* 732. (*copied E. t.* 218. *f.* 4. and *W. t.* 12. *f.* 15.—*D. p.* 307.) the M. LEUCOPHÆATUS *Say. Jour. Philad.* 6. *t.* 11. *f.* 15. *p.* 263.—and M. M. DILATATUS *W. S. t.* 2. *f.* 2.

<sup>3</sup> M. Deshayes refers to this species, as a variety, the FLABELLUM of *Lamarck* 2.—(*Kn.* 2. *t.* 26. *f.* 2.—*Ch. f.* 769. Reddish rust color, pellucid, subtruncated and rather broad at the anterior margin; the longitudinal sulci straight and armed with small or moderate sized whitish scales. *Shorter and smaller than Rudis.*

P. CARNEA Gmel. 3365.—D. p. 326. partly—W. t. 12. f. 6.—P. FLABELLUM var. Lam. 2.—Kn. 2. t. 23. f. 1.—Schrot. 3. t. 9. f. 7. Subtriangular, not rounded at the margin, reddish rust or flesh coloured, with longitudinal nearly or quite unarmed ribs, and the sides nearly straight.

P. RIGIDA Dilw. p. 327.—W. t. 12. f. 7.—E. t. 199. f. 4.—

P. SEMINUDA. Lam. 3.—Knorr. 2. t. 26. f. 1.—Seba. 3. t. 91. f. 3

—P. NOBILIS. Ch. f. 775. Greyish-fulvous, rather short, about ten or twelve rows of narrow distant strongly raised radiating sulci armed with numerous semitubular narrow scales: ventral side devoid of sulci and scales, the edge incurved near the beaks then swelling out and running nearly in a straight direction to the broad anterior base, which is but little rounded at either extremity; dorsal or hinge margin the shorter, but elongated and incurved. 6 Curacao.

C. ANGUSTANA. Lam. 4. Narrow, wedge-shaped, horn coloured, the dorsal margin larger than the posterior: radiating sulci fine and only armed with white vaulted scales towards the margin, where the shell becomes brownish. Mediterranean.

P. NOBILIS. Lin. 1160.—Lin. Mus. Ulr. 144.—Ch. f. 776.—

E. t. 200. f. 1.—Lam. 5. var.—D. p. 327.—W. t. 12. f. 8.—P.

MURICATA. Poli. (not Lin, nor Lam.) t. 34. f. 1.—Phil. p. 75.

Elongated triangular, greyish orange, entirely covered with numerous radiating raised sulci, which become obsolete near the broader end, and are armed with crowded thin semitubular scales which become erect as they recede from the beaks, and finally recurved: hinge margin incurved, very long, angulated at its base, the anterior basal line running obliquely but with more or less convexity to meet the rounded extremity of the ventral edge, the latter nearly straight. 12. Mediterranean.

P. SQUAMOSA Gmel 3365.—Lam. 6.—D. p. 329.—W. t. 13. f.

13.—List. t. 374. f. 215.—Ch. 787. and (young) f. 784.—E. t. 200

f. 2.—Very large, elongated, reddish salmon coloured, very ventricose in the middle, with obsolete radiating sulci but never ribbed, when perfect covered at the extremity with crowded concentric rows of very fragile slightly raised scalloped imbricated scales, but the shell usually (except when young or at the last layers of growth) has the surface nearly worn smooth, preserving the vestiges of its former scales by the scalloped concentric subimbricated lines; hinge margin incurved and (in the adult) much shorter than the convex posterior ventral; anterior ventral base rounded at both sides. Up to 2 feet. Australia.

P. MARGINATA. Lam. 7.—Phil. p. 75.—P. BULLATA. Gmel.

3367.—W. t. 13. f. 20.—Gualt. t. 79. f. C. Thin, fragile, pellucid,

whitish, longitudinally sulcated, and armed at the furthest extremity from the beaks with four transverse rows of spines. 5½.—E. Indies.

*P. MURICATA*. *Lam.* 8.—*Lin. Sys.* 1160?—*D.* p. 328.—*Knorr.* 6. t. 20. f. 1.—*W.* t. 12. f. 9.—*Ch. f.* 781. *badly*.—*List.* t. 370. f. 210. Thin, pellucid, pale fulvous, subtruncated, the longitudinal sulci few and muricated: the scales small erect and somewhat acute; posterior side unarmed. *Atlantic, Antilles. Moderately large.*

*P. PECTINATA*\* *Lam.* 9.—*D.* p. 325.—*Lin.* 1160?—*Turt. Biv.* t. 19. f. 1.—*W.* t. 12. f. 4.—*Phil.* p. 74.—*Gualt.* t. 79. A.—*Mont.* p. 178. Triangular-oblong, horn coloured, with numerous radiating elevated narrow sulci (except on the ventral side which is merely roughened by the crowded layers of growth) which are often armed with very small distant concave scales; dorsal edge straight, the longer, angulated at the subtruncated anterior base; ventral edge elongated, incurved towards the beaks, elsewhere nearly straight. 7. *N. Europe.* The specimen in Linnæus's collection much more resembles *Inflatus* than this our British Species.

*P. SACCATA*. *Lin.* 1160.—*D.* p. 333. (*partly*)—*Lam.* 10.—*Leach Z. M.* 1. t. 51.—*Rump.* t. 46. f. N.—*P. NUTTALLII.* *Con. J.A.N.S.* *Phil.* 7. t. 19 f. 4. Satchel shaped, subquadrate, smooth: thin, horn coloured, the disk with about five prominent broad undulating unarmed ribs; posterior ventral edge incurved, anterior base subtruncated. 8.—*Amboyna, &c.*<sup>1</sup>

*P. VARICOSA* *Lam.* 11.—*Seba.* 3. t. 92. (*the two penult side f.*) Semitransparent, not spinous, reddish rufous, obliquely rounded at the anterior ventral margin; with thick waved varicose radiating ribs: a cloudy blackish brown spot towards the base of its posterior side. 8.—*Isle of Trinity.* *M. Deshayes* remarks "*Should the existence of this species, depend on the authority of Seba's figures, the species must be expunged, as Seba has represented a variety of Rudis.*"

*P. BICOLOR.* *Chem. f.* 780. (*distorted*)—*W.* t. 13. f. 14. (*copy of Ch.*)—*D.* p. 330.—*P. DOLABIATA.* *Lam.* 12. Moderately ventricose, elongated, imbricated and lamellar near the anterior ventral margin which is obliquely rounded, with obsolete longitudinal sulci; greyish rayed with smoky brown, semitransparent; anterior margin very long, straight and subacute. *South Seas.* 14.—*Australia.*

*P. INGENS*\* *Pen.* 4. p. 115.—*Mort.* p. 180. and *Sup.* p. 72.—*Lam.* 13.—*D.* p. 325.—*Turt. D.* p. 148.—*P. INGENS AND FRAGILIS* *Turt. B.* p. 222. t. 20. f. 1, 2.—*P. LEVIS.* *Don.* t. 152. Ovate-triangular, moderately long, more or less rugged, with very narrow distant unarmed (except when very young) radiating ribs which be-

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<sup>1</sup> We have given a copy also of Chemnitz's *Saccata* *W.* t. 13. f. 18. which is undoubtedly distinct from this and more like Conrad's *Semicostata*.



come obsolete as they approach the but slightly rounded anterior ventral edge: horn coloured, more or less dark, the wrinkles of growth which run nearly at right angles, from the straight dorsal edge, very conspicuous at the ventral edge (near which the ribs cease) this latter which is about equal to the dorsal is incurved near the beaks and thence proceeds in nearly a straight outward direction to the broad open extremity. 10.—*Britain. The ribs are further apart and less numerous than in Pectinata.*

P. VEXILLUM. *Born. t. 7. f. 8.—Gmel. 3365.—D. p. 329.—Lam. 14.—Ch. f. 783.—W. t. 13. f. 11.* Short, broad, brown with blackish clouds, retuse at the anterior ventral margin, the ventral edge in receding from the beaks, much dented and transversely wrinkled; the disk anteriorly with longitudinal unarmed ribs. 5. *East Indies. Not unlike the next but is smaller and the anterior ventral margin broader in proportion and less rounded, the sides are more abruptly curved.*

P. NIGRA. *Ch. f. 774.—D. p. 325.—Sow. G.—Reeve. t. 104.—W. t. 12. f. 2.—P. NIGRINA. Lam. 5.—E. t. 199. f. 1.* Ovate, ventricose, with the margin rounded on both sides, opaque, blackish within and without, with some radiating striæ, which are most apparent at the beaks, usually with a few distant vaulted scales towards the anterior ventral margin. 10.—*Indian Ocean.*

P. SERRATA. *Sow. G.—Reeve. t. 103.—Desh in Lam. vol. 7. p. 67.* Elongated, triangular, thin, pellucid, yellowish horn coloured, both the sides straight and forming an acute angle at the beaks, the posterior one obtuse and obliquely rounded: the surface divided into two portions, the anterior one with longitudinal diverging sulci armed with imbricated scales even to the margin which thus resembles the edge of a saw, the other with curved lines of growth surmounted by small rather depressed scales. 5.—*New South Wales.*

P. ADUSTA. *Chemnitz. f. 782.—D. p. 328.—P. EXUSTA. Gmel. 3366.—W. t. 13. f. 10.* Subtriangular-ovate, rather short, transversely wrinkled, with several smooth and a few broad spinous ribs: brownish horn-coloured, with dusky rays; posterior ventral much arcuated; dorsal edge subincurved, nearly straight, anterior base slightly arcuated, broad, rounded at the sides. 5. *Manilla. Not unlike Seminuda but the dorsal edge is shorter, less straight and more rounded at the end.*

P. INCURVA. *Gmel 3366.—D. p. 330.—Ch. f. 778.—E. t. '200. f. 3.—W. t. 13. f. 15.* Very narrow, triangular, dorsal edge the longer, incurved; posterior ventral nearly straight, keeled in the middle of the shell, transversely wrinkled, fulvous, with a few radiating striæ: anterior base arcuated: apex very acute. 11. *Nicobar Isles.*

P. PAPYRACBA. *Chem. f. 786.—Gmel. 3367.—D. p. 331.—W.*

*t. 12. f. 17.* Narrow-subtriangular, dorsal edge much longer, sub-incurved, and angulated at the end, posterior ventral nearly straight; pellucid horn-coloured with about 10 broad, rounded, slightly scaly ribs: anterior base obliquely arcuated. 6. *E. Indies*.<sup>1</sup>

*P. ALBA.* *Sow. Z. P.* 1835. Triangular, fan-shaped, with radiating narrow riblets which (especially anteriorly) are armed with a few rather long scales becoming nearly obsolete ventrally: dorsal edge straight, anterior broad and rounded, ventral ventricose: vertex rather hooked.  $4\frac{1}{2}..5\frac{1}{2}$ . *Honduras*.

*P. ATROPURPUREA.* *Sow, Tank. Cat.* Elongated-triangular, blackish purple, with a few distant radiating ribs which soon become obsolete, a few very thin paler convex broad scales towards the rather narrow anterior base, which is slightly retuse near the very elongated and somewhat incurved dorsal edge, and then slopes obliquely without forming an angle, to the convex posterior ventral margin. 6. *Indian Seas?*

*P. AFRA.* *Sow. Z. P.* 1835. Lanceolate, horn-coloured, somewhat radiatingly painted with brown: with radiating subobsolete riblets which are armed anteriorly with loose broadish scattered scales: dorsal and ventral edges equal, anterior short and somewhat rounded.  $2\frac{1}{2}..6$ . *Cape of G Hope*.

*P. SEMICOSTATA.* *Conr. Journ. A.N.S. p.* 245. *t. 20. f. 11.* Narrow cuneiform, dilated at the base, smooth; yellowish, greenish and iridescent near the apex, basal margin straight, anterior side ribbed, posterior with concentric sulci, interstices of the ribs transversely striated. *Sandwich Isles*.  $3\frac{1}{2}$ .

*P. SQUAMIFERA.* *Sow. Z. P.* 1885. Sublanceolate, horn-coloured, with a few radiating riblets, which are armed with rather large, broadish and somewhat distant, subreflected rounded and hyaline scales: dorsal edge straight, anterior and ventral rounded and continuous: ventral area wrinkled.  $3..6$ . *C. of G Hope*.

*P. MAURA.* *Sow. Z. P.* 1835. Oblong, tumid, blackish brown, with radiating small obtuse nearly obliterated ribs, which anteriorly support vaulted and subreflected scales which become smaller toward the ventral edge: dorsal edge straightish, anterior edge somewhat rounded, anterior ventral subventricose, posterior ventral sloping.  $5\frac{1}{2}..10\frac{1}{2}$ . *Panama*.

*P. TUBERCULOSA.* *Sow. Z. P.* 1835. Subtriangular, broad, blackish brown, with the scales paler; with obsolete radiating ribs, armed with short foliaceous, anteriorly incurved, vaulted, tubercle-

<sup>1</sup> The *P. VITREA.* of Chemnitz. *f.* 772.—*Philippi. p.* 75.—*W. t. 13. f. 16.* copied in our figures is not improbably the young of this shell, or possibly of Turtons Papyracea which is assuredly distinct and possibly but a variety of the British Pectinata.

like scales; dorsal edge straight, anterior rather sloping, ventral somewhat rounded; anterior angles rounded: vertex somewhat hooked. 6...8. *Panama*.

*P. ZELANICA*. Gray in Yates *N. Zealand*.—Gray *Dief. Zeal*. Triangular, elongated, blackish, convex with rather close radiating ribs armed with close short semicylindrical hollow spines, within purplish, pearly. *New Zealand*. Differs from *Squamosa* in being smaller, black, and having the anterior base more truncated. *New Zealand*.

*P. LANCEOLATA*. Sow. *Z. P.* 1835. Lanceolate, towards the dorsal edge with radiating longitudinal riblets, almost unarmed towards the posterior ventral margin, riblets distant, muricated, with distant rather long subrecurved scales; dorsal edge straight, anterior rather straight and somewhat sloping, ventral subventricose.  $3\frac{1}{2}$  ..  $7\frac{3}{4}$ . *Puerto Portrero*.

*P. INFLATA*. *Chem.* 8. p. 215. f. 771.—*W. t.* 12. f. 5.—*D. p.* Very tumid, uniform olivaceous horn-coloured, moderately elongated, triangular satchel-shaped, with radiating unarmed ribs which do not extend to the anterior base or the wide posterior ventral area which is covered by subreticulated wrinkles and defined by an obsolete longitudinal keel: hinge margin somewhat shorter than the posterior ventral, the former nearly straight and armed at its edge with small prickles, the latter incurved near the beaks and convex as it approaches the anterior base, which is arcuated and subangulated at each extremity. 6. *Nicobar Isles*.

*P. RUGOSA*. Sow. *Z. P.* 1835. Large, rough, triangular, with obtuse radiating ribs, anteriorly broad and rounded; ribs anteriorly armed with large elongated irregular somewhat recurved foliaceous tubular scales: dorsal edge straight; posterior ventral somewhat contracted. 6..9. *Panama*.<sup>1</sup>

### TRIBE MALLEACEA.

*Foliaceous, more or less inequivalve; having the ligament marginal, somewhat linear, and either simple or interrupted by the crenulations.*

### CRENATULA.

*Subequivalve, flattened, somewhat distorted and lamellar; no special opening for the byssus; hinge lateral, linear, margined and crenated; the crenulations in a regular series, callous, and somewhat hollowed, receiving the ligament.*

<sup>1</sup> See too the *P. VIRGATA*, and *DELTODES*, of Menke's Specimen *N. Hollandiæ Molluscorum*.

*C. AVICULARIS.* Lam. 1.—*Bl. t.* 63. *f.* 4.—*An. du mus. vol.* 3. *t.* 2. *f.* 1, 2.—*OSTREA SEMIAURITA.* *D. p.* 281. ?—*Gmel.* 3335 ?—*W. t.* 11. *f.* 77 ? Rhomboid-rhombic, compressed, submembranaceous, blackish with many white rays, no sinus at the base.  $1\frac{1}{2}$  ..  $1\frac{1}{2}$ . *S. America.*

*C. MODIOLARIS.* Lam. 2.—*Del. t.* 14. *f.* 2. Somewhat wedge-shaped, compressed, submembranaceous, reddish rufous, with a few white rays: beaks lower than the dorsal line, separated by a sinus.  $2\frac{1}{2}$ . *New Holland.*

*C. NIGRINA.* Lam. 3.—*C. AVICULARIS.* *Sow. G. f.* 1, 3.—*Reeve. t.* 105. *f.* 1.—*OSTREA PICTA.* *W. t.* 11, *f.* 82. Subovate, compressed, violet black, subradiated by very fine white lineoles: beaks minute and lower than the dorsal line.  $2\frac{1}{2}$ . in length. *Australia.*

*C. BICOSTALIS.* Lam. 4. Suboval, flat, blackish blue, upper valve with two longitudinal somewhat acute ribs: beaks terminal. Length  $3\frac{1}{2}$ . *New Holland.* The original specimen in the French museum seems only an aged *Nigrina*.

*C. VIRIDIS.* Lam. 5.—*E. vol.* 2. *p.* 24. Ovate-oblong, somewhat irregular, being unequally convex above, flattish concave below: greenish glaucous, dorsal edge with a somewhat tongue-shaped obliquely produced appendage; beaks terminal. 4. *Australia.*

*C. MYTILOIDES.* Lam. 6. (and *PHASIANOPTERA.* Lam. 7.)—*E. vol.* 2. *p.* 24.—*Ann. du Mus. vol.* 2. *p.* 2. *f.* 3, 4.—*Sow. G. f.* 2.—*Reeve. t.* 105. *f.* 2.—*OSTREA PICTA.* *Gmel.* 3399.—*D. p.* 283. Oblong ovate, acute at the base, thin, violet with obscure rays; beaks internally, with crowded vaulted lamellæ. 2. *Red Sea.*

*C. FOLIUM.* Gray, *Ann. Phil.* 25.—*Brande Journal*, 15. *t.* 2. *f.* 81.—*MYTILUS F.* *W. S. t.* 2. *f.* 4. Ovate, whitish, rayed, compressed, anteriorly rounded, posteriorly winged.

PERNA.

*Subequivalve, flattened, slightly distorted, of a lamellar texture; hinge linear, marginal, composed of many furrow-like, parallel, and transverse teeth, not inserted in the opposite furrows, between which the ligament is seated; sinus for the byssus, somewhat gaping, posterior, and placed under the extremity of the hinge, its sides callous.*

*P. EPHIPPIMUM.* Lam. 1.—*E. t.* 176. *f.* 2.—*OSTREA E.* *Lin.* 1149.—*D. p.* 282.—*Ch. f.* 576.—*List. t.* 227. *f.* 62.—*Klein t.* 8. *f.* 18.—*W. t.* 11. *f.* 80. Greatly compressed, purplish brown, as broad as long, the hinge margin short, terminated anteriorly in a rounded off rectangle, from whence the edge runs in a dilated shallow sinus, to the semiorbicular ventral margin; posterior side the more produced, much incurved towards the beaks: internal nacre purplish, margins very acute. *Var. (from Australia).* Whitish spotted with violet. 5. *Indian Ocean.*

P. OBLIQUA. *Lam.* 2.—OSTREA ALATA. *Gmel* 3399.—*D.* p. 283.—*Knorr.* 6. t. 21. f. 1.—O. ALA-CORVI. *Ch.* f. 581.—O. PERNA. *W. t.* 11. f. 78.—P. EPHIPPIMUM. *Sow. G.*—*Reeve. Sys. t.* 106. f. 2. Compressed, subovate, obliquely produced anteriorly, very fragile, purplish brown, but pale towards the beaks: hinge margin very short terminated anteriorly by an obtuse angle from which the margin runs in a scarcely incurved oblique line to the obtuse ventral, posterior sinus short and not deep: surface not striated by radiating lines: edges very acute.  $2\frac{1}{2}$ . *Antigua.*

P. ISOGNOMON. *Lam.* 3.—OSTREA O. *Lin* 1149.—*D.* p. 282. Elongated, rather solid, dark chocolate brown, compressed, hinge margin forming anteriorly a longer or shorter lobe-like wing; surface often obsoletely subradiated by costellæ. Internal nacre bluish white. *Var.* A. (*Ch.* f. 584.—*W. t.* 11. f. 79.—*Bl. t.* 63. f. 1.—*E. t.* 176. f. 1.—*Sow. G. f.* 1.—*Reeve t.* 406. f. 1.) The body and elongated wing, nearly straight and nearly at right angles dorsally, so that the shell presents a rude resemblance to a carpenter's square. *Var.* B. The wing almost obsolete. (P. FEMORALIS. *Lam.* 5.—*Ch.* f. 582, 3.—*Knorr* 4. t. 10. f. 1, 2.—*E. t.* 175. f. 4, 5.) *Var.* C. (*Seba* 3. t. 91. f. 7.) Wing moderate, body obliquely curving anteriorly. 6. *Indian Ocean.*

P. AVICULARIS. *Lam.* 4.—*Del t.* 14. f. 3. Compressed, whitish, terminating ventrally in a broad oblique lobe: dorsal edge forming a short lobe anteriorly; beaks conical and somewhat produced: sinus for the byssus profound. *Allied to the last.*

P. CANINA. *Lam.* 6.—*Seba.* 3. t. 91. f. 8.—*Knorr.* 6. t. 13. f. 1. Compressed, triangular, rather broad dorsally, somewhat lobed on one side, violet brown: shell attenuated and elongated towards the ventral edge. 4. *Indian Ocean and Australia.* *M. Dehayes considers this to be the young of Isognomon.*

P. MARSUPIUM. *Lam.* 7. *Ch.* f. 577. Compressed, brownish, rounded ovate; posterior side with a deep sinus at its junction with the hinge which has but from six to eight teeth: nacre, violet within. *Var.*—Elongated and squarish: silvery within. *New Holland.*

P. SULCATA. *Lam.* 8.—OSTREA PERNA. *Lin.* 1149. Obovate, pale, yellowish, or the colour of rotten wood, with crowded elevated narrow ribs, which are rendered subnodulous by the layers of growth, the interstices lineated with a darker colour, usually ferruginous or purplish brown: hinge-margin rather short, anteriorly subauriculated, the anterior edge slightly convex in the young, in the adult nearly straight; sinus for the byssus in one valve only, deep, short: ventral edge arcuated, internal nacre silvery white, cardinal sulci few.  $2\frac{1}{2}$ . 2. *New Holland.* *This is not the shell which Lamarck's synonyms refer to, but is described from an examination of*

the original type in the Parisian Museum, which is the fac-simile of Linnaeus's own specimen of *Ostrea Perna*.

P. VULSELLA. *Lam. 2.*—*List. t.* 199. *f.* 33. Elongated, tongue-shaped; hinge-margin short, oblique, with but few teeth; beaks small, hooked.  $2\frac{1}{2}$ . *Indian Seas*. The original specimen which I saw in the Museum at Paris appears a young shell.<sup>1</sup>

P. LISTERI. *Nobis*.—*List. t.* 228. *f.* 63.—*Klein. t.* 8. *f.* 19. 20. Subovate, longer than broad, rather irregular in shape, inequivalve, with undulated slightly elevated radiating ribs, which are not crowded, either rayed with purplish brown on a pale yellowish ground or vice versa; dorsal edge moderately long; posterior sinus short and deep, in one valve only; posterior edge obliquely rounded, the shell being produced anteriorly; anterior edge nearly straight. $1\frac{1}{2}$ . *W. Indies*. The figures of Lister and his copyist Klein are quoted for *Sulcata* by Lamarck. The shell from which that species was described, is very different from this, and easily to be distinguished by its difference of colouring and its narrow crowded riblets. In all specimens of *Listeri* examined by myself, the colouring matter is confined to the upper valve.

P. NUCLEUS. *Lam.* 10. Small, oval, rather acute at the base; posterior side with almost two sinusses: hinge with four teeth or with a fifth obsolete one.  $\frac{3}{4}$  *Isle of St. Francis and St. Peter, Australia*.

P. LEGUMEN. *Lam.* 12.—*OSTREA* L. *Gmel.* 3399.—*D.* p. 283.—*Ch. f.* 578.—*E. t.* 175. *f.* 23.—*W. t.* 11. *f.* 83. Longitudinally linear, straight, very brittle and diaphanous, yellowish white; the hinge oblique, with but few teeth. *Nicobar Isles*.  $1\frac{1}{4}$ .  $\frac{1}{4}$ .

P. COSTELLATA. *Conr. Jour. Philad.* 7. p. 246. Very much elongated longitudinally, and greatly compressed, yellowish white, with radiating tuberculated striæ.  $2\frac{1}{4}$  *Sandwich Isles*.

P. INCISA. *Conr. J. Philad.* 7. t. 19. *f.* 9. Longitudinally subovate, dilated towards the ventral edge which is arcuated and bordered by obsolete radiating striæ, dark purplish brown; the hinge margin rather short, with from three to five teeth, posterior sinus short and deep; anterior side subauriculated, the edge nearly straight, inclined to convex: within highly polished, pale, variegated with dark purplish brown. 2. *Sandwich Isles. Allied to Obliqua*.

P. CALIFORNICA. *Conr. J. Philad.* 7. t. 19. *f.* 13. Compressed,

<sup>1</sup> The variety of Lamarck. *Ch. f.* 579.—*Copied E. t.* 175. *f.* 1. which is adorned with broad red rays, is separated justly by Deshayes and Anton; by the latter it is entitled *Radiata*. It comes from the Indian Seas and is represented as rather more than two inches long.

A. TARENTINA.\* *Lam.* 6.—*Phil.* p. 76.—*E.* vol. 2. p. 99.—*E. t.* 177. f. 8.—*Ch. f.* 725.—MYTILUS HIRUNDO. *Poli.* 2 t. 32 f. 17 to 21.—*do.* var. *E. D. p.* 321.—A. ACULEATA. *Risso.* Thin, yellowish grey, usually rayed with brown, generally worn smooth, but armed when perfect with numerous very narrow long depressed scales: valves nearly equal in size but not always in convexity: ear prominent, sublanceolate: body narrow, very obliquely projecting; tail rather long, the sinus always more or less profound and obtuse.—3. *Mediterranean, &c.*

A. ATLANTICA. *Lam.* 8.—*E.* 2. p. 101.—MYTILUS HIRUNDO. VAR. A & B. *D. p.* 321.—*W. t.* 12. f. 42.—*Gualt. t.* 94. B. —*Ch. f.* 722,3.—*Adan Sen. t.* 15. f. 6. Brown, with the wing broad, rounded, and scarcely oblique: valves unequal in size: tail elongated; body rounded, small, not very oblique.  $2\frac{1}{2}$ .—*Atlantic Ocean.*

A. SQUAMULOSA. *Lam.* 9. Thin, fragile, yellowish or red, with a few obsolete cloudy markings, somewhat roughened by a few distant radiating rows of scales; wing broad and obliquely rounded, tail very short and ear shaped; anterior sinus shallow.—*Base.*  $1\frac{1}{2}$ . *Brasil. Tiger Bay?*

A. PAPILIONACEA. *Lam.* 10. Thin, pellucid, whitish, interruptedly rayed with chesnut or purplish brown, tail almost obsolete; body moderately long, somewhat rounded; ear prominent.—*Var.* With the rays greenish, spotted with brown. 1 *Australia.*

A. COSTELLATA. *Lam.* 11. Thin, oblong-elliptic, oblique, brownish, fulvous, with minute tubercles so disposed as to resemble ribs: hinge short; no tail: within but partly nacreous. *East Indies.*

A. PHYSOIDES. *Lam.* 12. Very thin, very fragile, hyaline and subvesicular, veined with a few ferruginous lines; the wing very oblique; tail very short if any.  $\frac{1}{2}$  *New Holland on Sertulariæ.*

A. VIRENS. *Lam.* 13. Very small, thin, smooth, pellucid, greenish, margin somewhat rayed; tail short and ear shaped. *Variety.*—*Ch.* 721. With the wing larger and rounder.  $\frac{1}{2}$  *New Holland.*

A. VESPERTILIO. *Desh. in Lam. vol.* 7, p. 102. Brownish black, inequivalve, concentrically substriated, with the wing broad, round and scarcely oblique, tail elongated, narrow, fragile: hinge-margin narrow; nacre reddish; with two small obtuse teeth and the rudiments of a posterior lateral one. *The sinus for the byssus forms a right angle on the right valve.*<sup>1</sup>

<sup>1</sup> This description is not inapplicable to the Morio of Leach, of whose figure in the Zoological Miscellany, (2. t. 38. f. 2.) we have

A. SAVIGNII. *Desh. in Lam. vol. 7. p. 102.—E. t. 2. p. 100.—*  
A. HETEROPTERA. *Sow. G. f. 1.—Reeve t. 109.—Ch. f. 2018, 9.?*  
Thin, fragile, blackish brown, oblique, with transverse very fine  
striae, which become rather scaly on one side: tail short, scarcely  
longer than the wing.

A. BREVICAUDA. *Desh. in Lam. 7. p. 102.* Oval, subquad-  
rangular, slightly oblique, thin, fragile, blackish and substriated;  
tail very short, broad and obtuse: ear very short; anterior sinus  
broad and rather deep: hinge with two small obtuse cardinal teeth  
and a large and tolerably prominent posterior lateral one.—*A link  
between this genus and Meleagrina.*

A. GEORGINA. *Quoy, Ast. t. 77. f. 10, 1.* Small, thin, fragile,  
pellucid, oblong, subquadrangular; inequivalve, smooth, rather  
inflated, dark olive green, with either violet spots or small white  
radiating lines: tail short, ear striated; internal nacre bluish  
white, with a copper-coloured iridescence. *New Holland.*

A. LIVIDA. *Desh. in Lam. vol. 7. p. 103.* Small, oval-oblong,  
obliquely truncated by the hinge margin, which is shorter than  
the breadth of the shell: livid yellowish white, smooth, depressed,  
thin and fragile: the right valve eared, no tail, within silvery  
pearl.<sup>1</sup>

A. LINGULATA. *Desh. in Lam. vol. 7. p. 103.—E. M. 2. p. 104.*  
Rounded oval, rather solid, flattened, oblique, truncated by a short  
straight hinge margin, the anterior margin scarcely sinuated at its  
junction with the ventral one, forming but an obtuse angle and no  
tail; uniform deep violet-black, smooth: silvery pearl within,  
with a broad margin of the outer coating. *Indian Ocean?*

A. ALA-CORVI—MYTILUS A. *Chemnitz. vol. 8. p. 144. f.*  
*727.—D. p. 322.—W. t. 12. f. 44.* Very oblique, brownish  
black with most elegant radiating white dots: hinge-margin,  
shorter than the breadth of the shell: ear small; no tail and  
scarcely an anterior sinus.  $1\frac{1}{4}$ . *S. Seas.*

A. NEBULOSA. *Conr. Journ. Philad. 7. p. 246.* Convex, ra-

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given a copy, (*W. t. 12. f. 13.—D. p. 322.*) The figure having  
unfortunately being drawn from an imperfect specimen, the space  
from the beak to the ventral edge is represented as much smaller  
than it is in reality. The body of the shell is large and ventricose,  
and towards the posterior side, the lamellæ of growth become ele-  
vated, scaly, and arranged in radiating rows. The dark chocolate  
brown of the exterior is relieved by narrow radiating whitish  
streaks, and the posterior lobe is remarkably broad and large.

<sup>1</sup> Strictly following Lamarck, both this and Papilionacea belong  
to Meleagrina, the separation of which genus however from Avi-  
cula, seems repudiated by the best authorities.



ther solid, lower valve inflated; yellowish clouded and radiated with brown, with lamelliform serrated concentric wrinkles whose points are white and disposed in the form of rays; ears large body large, not oblique, as long at least as the hinge margin: no tail, anterior sinus slight: nacre silvery, often iridescent: inner margin broad and spotted with brown: cardinal and lateral teeth distinct. *Var. A. PALLIDA.* *Conr. J. Philad.* 7. t. 19. f. 6. p. 246.—Subquadrate, not clouded, compressed. 2. *Sandwich Isles.*<sup>1</sup>

### MELEAGRINA.

*Somewhat equivalve, rounded, quadrate, scaly on the outside, dorsal margin straight and not winged anteriorly: a sinus at the posterior side of the shell for the passage of the byssus, at which place the left valve is notched and narrow; hinge linear, and destitute of teeth; ligamental area marginal, elongated, and nearly external, dilated in the centre.*

MARGARITIFERA. *Mar Lam.* 1.—MYTILUS M. *Lin. Syst.* 1155.—*Lin. Mus. Ulr.* 538.—*D.* p. 304.—*Ch. f.* 717, 8.—*E. t.* 177. f. 1 to 4.—*W. t.* 12. f. 4.—*Knorr.* 4. t. 18. f. 1.—*List. t.* 221, 2.—AVICULA M. *Sow. G.*—*Reeve Sys. t.* 110. Subquadrate, sub-orbicular, solid, compressed, green or olive green with white or pale rays, imbricated by concentric lamellæ, which are produced at intervals in flat white tooth-like projections, in regular radiating rows: anterior edge subincurved: nacre white, usually greenish towards the edges. 7. *Indian Ocean, &c.*

M. RADIATA.—AVICULA R. *Leach Zool. M. t.* 43.—MYTILUS R. *D. p.* 302.—*Knor.* 2. t. 25. f. 2, 3, ?—M. MARGARITIFERA. *VAR. Lam.* Subquadrate, longer than broad, rather depressed, oblique, thin, pellucid, white with purple stains, girt with raised concentric lamellæ, which are fringed with long lanceolate concave lamellæ: auricle distinct, moderately large, short, deep, triangular: dorsal angle sharp, anterior edge incurved. 2. *W. Indies?* *This is probably a young shell but evidently distinct from the previous.*

M. ALBINA. *Lam.* 2.—*Rumph. t.* 47. *B?* Whitish, obsoletely scaly, with two constantly distinct ears: within pearly,

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<sup>1</sup> Add likewise the A. EGYPTIACA. (MYTILUS HIRUNDO. *var. Egyptiaca. Chem.* 11. p. 252. f. 2018.9.—(M. MORIO. *W. t.* 12. f. 13.) See also M. TONGANA and M. OVATA of *Quoy.* (*Astr. voy. t.* 77.) whose figures appear rather to be Aviculæ than Meleagrinae.

margined with white.—*Var.* Tinged with violet both externally and at the inner margin. 4. *Australia.* This species is usually longer (from the beaks to the ventral edge) than in *M. Margaritifera*; the nacre of its ear likewise projects more

SECTION II.

*Ligament not marginal, inclosed in a short hollow under the beak, always perceptible, and not forming a tendinous chord beneath the shell.*

TRIBE PECTINIDÆ.

*Shell for the most part regular and not foliaceous: the ligament either internal or partly so.*

PEDUM.

*Inequivalve, somewhat eared; the lower valve gaping; beaks unequal, separate; hinge without teeth; ligament partly external, seated in an elongated hollow in the internal surface of the beaks; lower valve with a notch near the posterior dorsal margin.*

*P. SPONDYLOIDEUM.* Lam. 1.—Sow. G.—Reeve. t. 111.—Bl. t. 62. f. 6.—OSTREA. S. Gmel. 3335.—D. p. 280.—Ch. f. 669, 0.—E. t. 178. f. 1 to 4.—W. t. 11. f. 75. Ovate wedge-shaped, flat, whitish, slightly tinged with violet towards the beaks; epidermis ferruginous: upper valve the larger, roughened by longitudinal undulated granular striæ. *Var.?* Smaller and rounded, the lower valve the flatter. 3. *Mauritius & Indian Ocean.*

LIMA.

*Longitudinal sub-equivalve, with small ears; valves slightly gaping on one side; beaks separate, their inner surface sloping outwards; cavity for the ligament partly external; hinge without teeth.*

*L. SCABRA.* Sow. Th. p. 83. t. 21. f. 4, 5, 12.—OSTREA. S. Born Mus. Cæs. p. 110.—W. t. 11. f. 55.—D. p. 271.—O. GLACIALIS. Gmel.—PECTEN ASPERA. Ch. f. 653.—LIMA G. Lam. 3.—Sow. G. f. 1.—Reeve Sys. t. 112. f. 1.—E. t. 206. f. 2. Oval, thick, rather compressed, slightly gaping at the anterior margin, rather more so at the posterior; surface rendered scabrous by angularly notched ribs meeting in the centre at an angle: ears striated the posterior tumid and slightly reflected: epidermis brown; hinge thick and obsoletely plaited. Sometimes this species becomes irregularly tongue shaped. 1,40..2. W. Indies.

**L. TENERA.** *Ch. f. 652.*—*Sow. Th. p. 84. t. 21. f. 2, 3, 10, 11, 13.*—**L. GLACIALIS** VAR. *Lam.—E. t. 206. f. 3.*—**OSTREA G. D.** *p. 272.—W. t. 11. f. 56.* Extremely like the last but with most minute ribs, the scales very minute, erect and interrupted. VAR. **A. Oval.** VAR. **B.** Rather elongated (*Isle of Mindoro*) VAR. **C.** Obliquely subtriangular, (*Philippines, Singapore.*) 1,5..1,2. *The difference between this and the preceding consists in the comparative fineness of the notched ribs; when in good condition they produce small erect seed-like terminations to the notches.*<sup>1</sup>

**L. BULLATA.** *Sow. G. f. 3.—Reeve Sys. t. 112. f. 3.—E. t. 206. f. 6.—Sow. Th. 84. t. 22. f. 32,3.*—**OSTREA B.** *Born. p. 110. t. 6. f. 8.—D. p. 270.—Ch. f. 649.*—**L. FRAGILIS.** VAR. **B.** *Lam. 5.* Elongated-oval, thick, ventricose, subequilateral, scarcely gaping at the sides; hinge margin thick, with a plication under the auricles which are thick sharp and nearly equal; about twenty nodose central ribs, and others less strongly raised at the sides. 1,40..0,84.<sup>2</sup>

**L. SQUAMOSA.** *Lam. 2.—Sow. G. f. 2.—Reeve t. 112. f. 2.—Phil. p. 77.—Sow. Th. t. 21. f. 1,18.*—**OSTREA LIMA** *Lin. 1147.—Lin. Mus. Ulric. p. 532.—D. p. 271.—Poli. 2. t. 28. f. 22,3,4.—Ch. f. 651.—E. t. 206. f. 4.—Born. p. 109.—W. t. 11. f. 54.—Kn. 6. t. 34. f. 3.* Thick, oblique, rather compressed, slightly gaping on both sides, posterior side angularly flattened; anterior auricles large, posterior comparatively small: ribs twenty to twenty four, thick, round, with sharp erect imbrications; hinge area large *Mediterranean.*—VAR. *from Red Sea.* More oblique, scales sharper and more numerous. 1,50..1,16.

**L. MULTICOSTATA** *Sow. Th. t. 22. f. 38. p. 85.* Closely resembling *Squamosa* but the ribs about thirty-five, moniliform and less raised. 1,50..1,16. *Mediterranean?*

**L. PAUCICOSTATA.** *Sow. Th. p. 85. t. 21. f. 14, 17.* Very like *Squamosa* but with only twelve or thirteen ribs whose scales are large and much elevated. 1..0,90.

<sup>1</sup> M. Deshayes states from an examination of the type of **L. ANNULATA.** *Lam. 4.* that it is a young variety of this species. Lamarck's description is as follows. "Obovate, subequilateral, the extremely delicate longitudinal striæ decussating the distant erect annular transverse ones. *Isle of France.* 1. *Allied to Glacialis.* (*Tenera*) both in shape and in the lips of its posterior gape.

<sup>2</sup> The **L. SUBAURICULATA** (*Turt. Biv. p. 218.—Fl. p. 388.—Sow. Th. t. 22. f. 23.—OSTREA. S. Mont. Sup. t. 29. f. 2.—W. S. t. 2. f. 5.—Turt. Dic. p. 131.*) scarcely differs except in its minuteness and the extreme fineness of its ribs.

*L. EXCAVATA* Gray Ann. Phil. 25.—*Sow. Th. p. 85. t. 21. f. 89.*  
—*OSTREA* E. Gmel. 3332.—*D. p. 272. —W. t. 11. f. 57. —Ch. f.*  
654.—*E. t. 206. f. 1.* Oval, thin, ventricose, radiated by fine distant striæ, slightly gaping on both sides, with a concave elongated depression posteriorly: posterior auricles small, the anterior large. 5. . 3 $\frac{3}{4}$ . Norway.

*L. INFLATA* Lam.—*Philip. p. 77. —L. FASCIATA* Sow. Th. 85. t. 21. f. 15, 6.—*OSTREA* F. D. (in part) p. 269.—*Lin. Sys. 1147. ?*  
—*Gualt. t. 88. FF. —W. t. 10. f. 50. —Ch. f. 649. a. —E. t. 206. f. 5. (bad)* Thin, ventricose, obliquely oval, hinge margin with a single plait under the auricles; hinge area small: anterior side widely gaping: posterior with a slight gape near the ventral margin: auricles acute, the posterior small: ribs numerous and angular. 1, 40. . 1, 17. Mediterranean.<sup>1</sup>

*L. VENTRICOSA* Sow. Th. 86. t. 21. f. 19.—*OSTREA FASCIATA.* Born. t. 6. f. 7.—*O. GLACIALIS* Poli. t. 28. f. 19, 21. Resembling the last but much more ventricose and the ribs distant and somewhat beaded. 2. . 1 $\frac{1}{2}$  Mediterranean.

*L. ROTUNDATA.* Sow. Th. p. 86. t. 21. f. 19. Extremely like *Fasciata* but less oblique and more ventricose, much shorter from the apex to the ventral margin than *L. Ventricosa*, being obliquely suborbicular; the hinge is much wider also, and the beaded distant ribs more coarse. 1. . 0, 9.

*L. LOSCOMBII\** Sow. G. f. 4.—*Reeve Sys. t. 112. f. 4. —Sow. Th. p. 86. t. 22. f. 20, 1, 2. —Macgil Aberd. p. 228. —L. BULLATA* Turt Biv. t. 17. f. 4.—*OSTREA FRAGILIS* Turt. Dic. p. 131. Thin, ventricose, obliquely oval, most minutely striated, with the anterior ventral margin slightly angular; scarcely any hiatus at the sides: auricles small and acute: area of the hinge small. 0, 62. . 0, 50. Britain.

*L. FRAGILIS.* Sow. Th. 86. t. 22. f. 34, 5, 6, 7.—*PECTEN* F. Ch. f. 650.—*OSTREA* F. D. p. 270.—*W. t. 11. f. 2. —L. LINGUATULA* VAR. A. Lam. 6.—*L. DEHISCENS* Conr. Jour A. N. S. Philad. Thin, rather flat, obliquely elongated, widely gaping on both sides; smooth at the sides, with the central ribs small distant and slightly angulated;

<sup>1</sup> Mr. Sowerby, from whose excellent monograph of Lima we have chiefly compiled this genus, has (we fear) erroneously stated that the type of *Ostrea Fasciata* of Linnæus is now in Linnæus's Cabinet, and agrees with the *Inflata* of Lamarck. An examination of Linnæus's Catalogue of his own collection, proves that he did not possess the *O. Fasciata*. The specimen of *Inflata* which is now there, has probably been introduced by Sir. J. Smith or the younger Linnæus, who successively have been possessors of this most interesting collection.

margin of the anterior hiatus formed by an internal rib; auricles small, anterior acute, posterior obtuse; hinge area narrow. 1,50..0,80. *Tahiti and Philippines.*

*L. ARCUATA* Sow. *Th.* p. 86. t. 22. f. 41, 2. Closely resembling the last but more gaping, and having the ventral margin expanded and slightly angular.  $1\frac{1}{2} \dots \frac{9}{10}$  *Panama, &c.*

*L. APERTA*\* Sow. *Th.* p. 87. t. 22. f. 26, 7, 8, 9.—*L. TENERA*. *Turt. Zool. J.* 2. p. 362. t. 13. f. 2.—*Phil.* p. 77.—*L. BULLATA*. *Payr. Corsic.* p. 70. Thin, rather flat, obliquely oval or elongated, smooth at the sides, minutely striated in the middle: posteriorly slightly, anteriorly widely, gaping, the anterior hiatus margined by a strong internal rib; anterior auricles acute: hinge area small.  $\frac{9}{10} \dots \frac{2}{3}$  *Britain.* 1

*L. DENTATA* Sow. *Th.* p. 87. t. 22. f. 30, 1. Obliquely elongated, thin, rather compressed, the posterior side slightly, the anterior rather more widely gaping; a slight internal rib, forms the margin of the anterior hiatus; anterior auricles extremely sharp, with a notch underneath them; hinge area deep; ribs eighteen, distant, granulated, their terminations producing a dentated ventral margin.  $\frac{9}{10} \dots \frac{1}{2}$

*L. CUMINGII* Sow. *Th.* p. 87. t. 22. f. 24, 5. Thin, small, obliquely elongated, rather inflated, nearly five-sided, almost closed at the margins; anteriorly very slightly gaping, ventral edge subquadrate; hinge short; auricles short and rather obtuse; anterior margin obtusely angulated; ribs twelve, central, nearly obsolete, toothed at the margin. 0,40..0,25. *Isle of Luzon, Philippines.*

#### PECTEN.

*Free, regular, inequivalve eared; the dorsal edge transverse, straight; beaks contiguous: hinge without teeth; ligament internal, placed in a triangular cavity.*

*P. MAXIMUS*\* *Lam.* 1.—*Sow. Th.* f. 98 to 100.—*Turt. B.* p. 207.—*Mont.* p. 143.—*E. t.* 209. f. 1.—*OSTREA M.* *Lin.* 1144.—*D.* p. 247.—*Knorr.* 2. t. 14. f. 1.—*W.* t. 11. f. 1. Suborbicular, rather spread at the sides, rather depressed; umbones smooth, margins striated; upper valve concave near the umbo, slightly elevated near the middle; auricles large, rectangular, striated: hinge

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<sup>1</sup> Probably the *Ostrea Hians* of Gmelin, a species wholly derived from the figure in Schroeter's *Einlungen* t. 9. f. 4. (*D.* p. 270.—*W.* t. 11. f. 53.—*L. LINGUATULA* VAR? *Lam.*) is an aged specimen of this species.

obliquely plicated; with from twelve to fourteen somewhat depressed rounded ribs which are broad and sulcated, yellowish white or yellowish brown, angularly spotted (chiefly at the umbones) with red or brown. 6..6½. *England, Mediterranean. The common Scallop*

*P. SIMILIS* Sow. *Th. f.* 116, 7. Closely resembling the last, but the ribs in the concave left valve more elevated, in the smoothish right valve more grooved. 3½..3¾. *England?*

*P. JACOBÆUS*\* *Chm. f.* 588.—*Lam.* 3.—*Phillippi. p.* 78.—*Poli. t.* 27. *f.* 1, 2, 3.—*E. t.* 209. *f.* 2.—*Sow. Th. f.* 107, 108, 153.—*OSTREA J. Lin.* 1144.—*List. t.* 165.—*W. t.* 11. *f.* 2. Suborbicular, spread at the sides, rather depressed; upper valve concave near the umbo, the sides elevated; ears broad rectangular concave and grooved near the margin; ribs fourteen to sixteen, in the left valve much elevated rounded concentrically striated, in the lower valve much elevated, quadrate, with strong radiating moniliform sulci, the interstices concentrically striated; yellowish white or yellowish fuscous, angularly spotted with red or fuscous. 6..6½. *England? Mediterranean.*

*P. LAQUEATUS* Sow. *Th. t.* 15. *f.* 101. Rounded; right valve with seven broad somewhat smooth subquadrate flattened ribs, which are obsoletely and radiatingly grooved; the interstices narrow, flat: white, tinged with purple at the umbo. *N. W. America.* 3½..4½. *The other valve is unknown.*

*P. MEDIUS* *Lam.* 2.—*E. vol.* 3. *p.* 715.—*Sow. Th. f.* 102, 3, 4.—*Ch. f.* 586, 7, 8. ? Suborbicular, rather depressed, smooth; flattened valve rather concave near the umbone, sides slightly elevated, with fourteen narrow ribs which are angulated at the sides and flat; ears equal, broad, concave and grooved near the margin: ribs in the convex valve sixteen, broad, divided, somewhat rounded, depressed; yellowish white or fuscous with red spots, red with either white spots or purple bands. 3, 3..2, 8. *W. Indies.*

*P. SULCICOSTATUS* Sow. *Th. f.* 35, 6. Rounded, radiately sulcated, rather ventricose; ears wide, concave, striated; the ribs twelve in the upper valve, (which is pale fawn with angulated streaks of red,) elevated, rather square and sulcated; in the purple lower valve, rounded and striated, with scarcely any interstices; interstices of the left valve sulcated and as wide as the ribs. 1½..1¾

*P. SUBVIRIDIS* Sow. *Th. f.* 165, 6. Suborbicular, subventricose; upper valve concave near the umbones, the sides elevated; ears broad rectangular, concave and grooved near the margin, the thirteen central ribs rounded smooth and elevated in the upper valve, the lateral ones smaller; in the lower valve obsoletely grooved, the interstices concentrically striated; upper valve greenish brown, lower valve white, yellow at the umbo, and brownish in the middle. 2..2½ *Allied to Jacobæus.*

**P. FUSCUS.** *Klein.—Sow. Th. f.* 118,9. Orbicular ventricose smooth, the upper valve concave at the umbo and rather elevated at the sides, the lower valve very convex at the apex and overlapping the other valve at the margin; ears wide rectangular, striated, concave: the ribs fourteen, narrow and nearly square in the upper, wider and rounded with smooth interstices in the lower valve: blackish or reddish brown, the inside clouded with light brown,  $3\frac{1}{2}$ .. $3\frac{1}{2}$ .

**P. SINENSIS.** *Sow. Th. f.* 120,1 and 134. Rounded, ventricose, concentrically striated; light reddish brown, mottled with darker brown, white near the umbones; ears concave, striated; the very concave upper valve, with the twelve central ribs, (the lateral are small,) quadrate flattened grooved and narrow, the interstices broad and concentrically striated; the ventricose lower valve with the fourteen broad rounded ribs grooved obsoletely and longitudinally, the interstices narrow and the margin overlapping the other.  $2\frac{1}{8}$ .. $3\frac{1}{10}$ .

**P. ZICZAC.** *Lam. 5. Sow. Th. f.* 129. to 133.—*Ch. f.* 590,1,2.—*E. t.* 207.f.1.—*OSTREA Z. Lin.* 1144.—*D. p.* 249(excluding varieties)—*List. t.* 168?—*Knorr. 2. t.* 20. f. 1.—*W. t.* 11. f. 3. Rounded, ventricose, smooth, the ears large, rectangular, with one or two broad slightly raised ribs on the upper part: upper valve flat, with a broad area on each side destitute of ribs; ribs thirty-one, depressed, alternate, the interstices narrow and most minutely striated: lower valve with twenty-four broad ribs which are obsolete near the umbo and devoid of interstices; colour variable, the under valve generally reddish brown softened into purple or white towards the umbones, the upper variegated with white spots, interrupted rays of brown and ziczac lines. *Red Sea and Phillipines*,  $3\frac{3}{10}$ .. $3\frac{3}{4}$ .

**P. DENTATUS.** *Sow. in Zool. P.* 1835.—*Sow. Th. f.* 49. Very inequivalve, equilateral; ears equal; the valve flattened, with radiating sulci and striæ; the lower valve very convex, smooth, with radiating sulci, the ventral edge deeply toothed: edge of the upper valve falling deeply within.  $3\frac{1}{4}$ .. $3\frac{3}{4}$ . *W. Colombia*.

**P. ERYTHRENSIS.** *Sow. Th. f.* 163,4. Rounded, ventricose, smooth; auricles concave and large; upper valve concave, with nine central ribs, which are concave and distant, three smaller ones on each side; lower valve (which overlaps the other at the margin) with twelve rounded, broad ribs; yellowish white variegated with red, the umbones stained with purple: inside purplish brown.  $2\frac{1}{2}$ .. $2\frac{1}{10}$ . *Red Sea*.

**P. PYXIDATUS.** *Born. t.* 6. f. 5. 6.—*Sow. Th. f.* 24,5.—*D. p.* 268.—*OSTREA SULCATA. Gmel.—Ch. f.* 304. Inequivalve, orbicular; the ears large and nearly equal, with several fine costæ; upper valve flat, hollowed near the umbones, with twenty-two ribs

(besides some smaller and rather elevated ribs on the sides) which are narrow and distant, the interstices broad and flat; lower valve very ventricose, its margin overlapping the other, its ribs broad smooth and without interstices. *China, Australia, Zulu, &c.*  $2\frac{1}{2}...2\frac{3}{4}$ .

*P. ASPER.* Sow. *Th. f.* 196, 7. Suborbicular, rather compressed; ears broad, obsoletely striated, those of the lower valve serrated at the margin; upper valve somewhat flattened, slightly elevated towards the umbones, its eighteen, angulated, biangulated towards the margin, the angles serrated, and the interstices narrow flat and concentrically striated; lower valve ventricose, the eighteen ribs rounded, angulated at the umbo, and concentrically striated, the interstices narrow and flat; upper valve pale red, with minute red concentric touches on the ribs and bands in the interstices, these being less numerous in the lower valve (whose ribs are interlineated and the umbo tinted with red) leave it almost white.  $1\frac{1}{2}...1\frac{3}{4}$ . *New Guinea.*

*P. INÆQUIVALVIS.* Sow. *Th. f.* 193, 4, 5. Suborbicular, rather compressed, oblique, spreading on one side, concentrically striated; ears small and nearly equal; upper valve somewhat flattened, slightly elevated towards the umbones, grey spotted with blackish brown and black, the eighteen ribs elevated subangulated, the interstices narrow and flat; lower valve ventricose, reddish white, spotted with brown on the eighteen elevated and rounded ribs, which are subquadrate near the margin, the interstices narrow and flat, the sides spotted with grey. *Variety.* Lower valve spotted with red.  $1\frac{1}{2}$ .  $1\frac{3}{4}$ . *Philippines.*

*P. ASPERSUS.* Sow. *Zool. P.* 1835.—Sow. *Th. f.* 198, 9 (*not Lam.*) Suborbicular, rather depressed, subequivalve, equilateral; the ears unequal, the lower rather large; one valve white or paleish, its fifteen ribs larger rounded and smooth; the fifteen more acute ribs in the other, fuscous sprinkled with small bluish dots, the rather pale interstices most delicately striated longitudinally.  $1\frac{1}{10}...1\frac{1}{2}$ . *Peru.*

*P. NUCLEUS.* Born. *t. 7. f. 2.*—Sow. *Th. f.* 85.—*P. TURGIDUS.* Lam. 15.—*OSTREA T. Gmel.*—*D. p.* 268.—*W. t.* 11. *f.* 47.—*List. t.* 169. *f.* 6. Orbicular, ventricose, subequivalve, thick, grey clouded with greyish brown, or nearly white clouded with reddish brown; ribs eighteen to twenty, elevated subquadrate, concentrically striated, the interstices moderate: ears small, nearly equal, grooved, rectangular.  $1\frac{2}{3}...1\frac{1}{2}$ .

*P. CIRCULARIS.* Sow. *Z. P.* 1835.—Sow. *Th. f.* 23. Suborbicular, tumid, subequivalve, equilateral, variegated with brown and white; ears large and nearly equal; radiating ribs eighteen, the



interstices broader and with curved striæ; the sulci deeper in one of the valves.  $1\frac{1}{2}$ ... $1\frac{1}{2}$ . *St. Vincents and California*.

P. VENTRICOSUS. *Sow. Th. f. 18, 19, 26*.—P. TUMIDUS. *Sow. Z. P. 1835*. Subinequivalve, equilateral; ears large and nearly equal, one valve turgid, variegated with reddish brown and whitish, with eighteen radiating ribs which are flattened on the top and have their interstices longitudinally striated; the other valve more turgid, whitish with radiating sulci; the interstitial ribs broader and flattened, the lateral variegated with brown: ventral edges acutely denticated.  $1\frac{1}{2}$ ... $1\frac{1}{2}$ . *W. Columbia*.

P. IRRADIANS. *Lam. 37*.—*Sow. Th. f. 139, 140*.—*Del. t. 15. f. 4*.—P. TURGIDUS. *Sow. G.*—P. CONCENTRICUS. *Say*. Orbicular, ventricose, rather thin, with minute concentric striæ; ears nearly equal, striated, one side smaller and emarginated at the base; pale reddish yellow, nearly covered by broad bands and large patches of greyish and reddish brown, a large portion being left nearly white in the lower valve; the eighteen ribs are rounded, with wide interstices.  $3\frac{1}{2}$ ... $3\frac{1}{2}$ . *Mediterranean and Newhaven*.

P. PURPURATUS. *Lam. 11*.—*Del. t. 16. f. 5*.—*Sow. Th. f. 113, 123, 125*. Orbicular, spread at the sides, ventricose, thick; ears nearly equal, with radiating ribs, emarginated at the base; pale purple with strongly marked festoons of white and blackish brown, (a variety also is orange, and even white) on the twenty-two broad flattened ribs, which have their sides serrated, the interstices narrow, with a small serrated rib in the middle, and the margin toothed.  $4\frac{3}{8}$ ... $4\frac{3}{8}$ . *Peru*.

P. GIBBUS. *Lam. 53*.—*Sow. Th. f. 1, 2, 17, 76*.—OSTREA G. *Lin. 1147*.—*D. p. 267*.—*E. t. 212. f. 3*.—*Ch. f. 619, 0, ?*.—O. PRINCIPALIS & FLAVELLUM. *Gmel.*—P. SOVERBII. *Guilding*. Rounded, ventricose, with concentric and radiating striæ; the ears nearly equal, striated and obtuse; excessively variable in colouring, being dull brown, bright red, delicately pink, mottled with brown, light blue variegated with patches of dark brown and touches of white and yellow, with eighteen rather rough ribs: the right valve rather the more ventricose.  $1\frac{1}{2}$ ... $1\frac{1}{2}$ . *Pacific*.

P. OPERCULARIS. *Pen. 4. p. 221. t. 63. f. 2*.—*Lam. 34*.—*Philippi. p. 83*.—*Mont. p. 145*.—*Sow. Th. f. 141 to 6*.—OSTREA O. *Ln. 1146*.—*D. p. 265*.—*W. t. 11. f. 43*.—*List. t. 190. f. 27*.—*E. t. 212. f. 2*.—P. PICTUS. *Da. Cost. t. 9. f. 1, 2, 4, 5*. Orbicular, rather ventricose, with concentric and radiating striæ; ears nearly equal, striated, obtuse, one in the lower valve rather the larger and emarginated at the base; upper valve rough and more ventricose than the other, with eighteen to twenty subangulated ribs, with broad interstices; lower valve with the ribs less angulated and the interstices narrower; colour extremely variable,

often light reddish brown banded and variegated with purplish brown, much lighter on the lower valve; there is also a bright orange variety and a white one. *Variety*. P. LINEATUS. *Da Cost.* t. 10. f. 8.—*Mont.* p. 147.—*Lam.* 35.—OSTREA L. *Don.* t. 116.—*D.* p. 266.—*W.* t. 11. f. 44. White with a red line on the top of each rib.  $2\frac{1}{10}$ ... $2\frac{1}{2}$ . *Britain, Mediterranean.*

P. AUDOUINII. *Payr.* p. 77. t. 2. f. 8.—P. SUBRUFUS. *Sow. Th.* f. 208, 9, 10.—Suborbicular, rather compressed, anteriorly subattenuated, scabrous; ears nearly equal, striated, obtuse, the posterior of the lower valve rather large and emarginated at the base; ribs twenty, angulated, their angles serrated; the sides concentrically striated, the interstices with scabrous striæ: colour variable, reddish brown with white ziczacs, purple, variegated, and pale orange variegated with brown and white.  $2\frac{2}{3}$ ... $2\frac{1}{2}$ . *Mediterranean.* The *Subrufus* of Pennant is a variety of the last.

P. EXASPERATUS. *Sow. Th.* t. 183. f. 186. Rounded-subquadrate, rather ventricose, scabrous; ears large, with scabrous striæ; ribs eighteen, subangular, the angles serrated, the sides with serrated striæ, the interstices with scabrous striæ; variations of colouring similar to the last.  $1\frac{1}{2}$ ... $1\frac{3}{4}$ . *Mediterranean.*

P. BIFRONS. *Lam.* 4.—*Reeve. Sys.* t. 114\*. f. 8.—*Sow. Th.* f. 9, 10. Subequivalve, subequilateral, orbicular, posteriorly less spread, scabrous; ears broad, quadrate, striated, the anterior slightly the smaller; with nine little elevated, rounded ribs, arranged in twos or threes; interstices broad, with irregular radiating ribs; upper valve pale purple, with blackish-red ribs which are spotted near the umbones; lower valve white, the ribs red; purple within,  $2\frac{1}{2}$ ... $2\frac{3}{4}$ .

P. PATAGONICUS. *King, Z. J.*—*Sow. Th.* f. 60. Rounded, rather ventricose, nearly smooth; ears striated and obtuse, the posterior the larger; pale fawn with thirty-four reddish brown nearly square smooth and elevated ribs.  $2\frac{1}{2}$ ... $2\frac{3}{4}$ . *Patagonia.*

P. SOLARIS. *Born. t. 6. f. 4.*—*Sow. Th.* f. 7, 8, 22.—*Phil. Conch. Pecten.* t. 2, f. 2.—OSTREA S. *D.* p. 264. Rounded, subequivalve, subequilateral, flat; ears small, nearly equal, smooth; pale red variegated with irregular bands and lines of red and white, or white with irregular bands of red spots; with eighteen smooth rounded and equal ribs having their interstices broad and substriated; in the lower valve, the ribs are broader, more or less striated and with scarcely any interstices.  $2\frac{1}{2}$ ... $2\frac{3}{4}$ . *Macassar & China.*

P. OBLITERATUS. *Lam.* 8.—*Sow. Th.* f. 126.—OSTREA O. *Lin.* 1146.—*W.* t. 10. f. 25.—*Gualt.* t. 73. f. C.—*D.* p. 258.—*Knorr.* 5. t. 21. f. 6. Suboval, smooth, semitransparent, compressed,

internally striated, toothed at the margin, gaping on each side; ears equal and obtuse; tawny, the margins purplish, with radiating and concentric red bands; lower valve much lighter.  $1\frac{1}{10}$ .. $1\frac{1}{5}$ . China.

P. PLEURONECTES. Lam. 7.—Sow. Th. f. 127, 128, 135, 136.—Bl. t. 60. f. 5.—OSTREA P. Lin. 1145.—D. p. 250.—W. t. 10. f. 6.—Gualt. t. 73. f. B.—Knorr. 1. t. 20. f. 3, 4.—Ch. f. 595.—E. t. 208. f. 3. Orbicular suboval, smooth, compressed, gaping on each side; ears equal, obtuse; internally, with twelve pairs of slightly raised linear ribs, the interstices substriated; upper valve pale greyish fawn, dark mahogany brown or purplish pink, lighter near the umbo and radiated with bands of a darker colour, each band defined by a sharp line on either side: lower valve white.  $2\frac{1}{5}$ .. $3\frac{1}{5}$ . China.

P. JAPONICUS. Lam. 9.—Sow. Th. f. 109, 0.—OSTREA J. Gmel. 3317.—D. p. 250.—Ch. f. 596.—E. t. 208. f. 4.—W. t. 10. f. 7. Orbicular, smooth, rather compressed, gaping considerably on each side; ears equal, obtuse, small; internally with twenty-two pair of ribs; upper valve dull red with concentric lines and bands of a darker tint, with faint light rays; right valve white.  $5\frac{1}{5}$ ..5. China and Japan.

P. LAURENTII. Lam. 6.—Sow. Th. f. 137, 8.—OSTREA L. Gmel. 3317.—Ch. f. 593, 4.—E. t. 208. f. 1.—W. t. 10. f. 8.—O. ZIEGLER. VAR. D. p. 249. Suborbicular, with a rounded angle at each side, smooth; the ears broad, rectangular, with undulated margins; upper valve rather flat, elevated at the sides, reddish brown, faintly radiated with darker brown and speckled with white, about forty-seven internal ribs; lower valve radiated with pale brown on a pale fawn ground, ventricose, rather compressed at the sides, white at the umbones, with about forty-one internal ribs.  $3\frac{1}{5}$ .. $3\frac{2}{5}$ . China.

P. MAGELLANICUS. Lam. 10.—Sow. Th. f. 122.—Am. Mar. Con. t. 1, f. 1.—OSTREA M. Gmel. 3317.—D. p. 250.—Ch. f. 597.—E. t. 208. f. 5.—W. t. 10. f. 9. Orbicular, rather flat, gaping on each side, radiated with numerous rough minute striæ; ears striated, broad, rectangular; the brown upper valve more ventricose than the nearly white lower one.  $3\frac{1}{5}$ .. $3\frac{2}{5}$ . Massachusetts.

P. EXOTICUS. Chem. f. 2037, 8.—Desh. ed. Lam. 7. p. 154.—OSTREA E. D. p. 259.—W. t. 10. f. 28.—P. PSEUDAMUSIUM. Sow. Th. f. 211, 2, & 243.—Pseudamysium Læve Klein. t. 9. f. 31. (a copy from List. t. 173.) Orbicular, compressed, smooth, or most minutely striated; ears flat, equal; ash or pale fawn with large brown spots.  $1\frac{1}{10}$ .. $1\frac{1}{5}$ . Gambia, Africa.

P. GRÆNLANDICUS. Sow. Th. f. 40. Equivalve, orbicular, rather

compressed, subequilateral; pellucid, very thin, smooth; ears small, obtusely angulated, the posterior the smaller: lower valve covered with a very thin opaque lamina. 1..1. *Greenland*.

P. LATIAURITUS. *Conrad. in J. Ac. N. S. Phil.* 7. (including his *Mesotimeris*?)—*Sow. Th. f.* 20,1.—P. TUNICA. *Phil. Conch. Pecten. t.* 1. *f.* 3. Obliquely subquadrate, inequilateral, thin, rather flat, anteriorly attenuated; the ears oblique and costated; umbones posteriorly inclined; brown variegated with zigzag marks of white or plain orange, with twelve smooth rounded ribs, the interstices concentrically striated.  $1\frac{1}{8}$ ...1. *California*.

P. TUMIDUS.\* *Turton Biv. t.* 17. *f.* 3.—*Sow. Th. f.* 27,8,9.—OSTREA T. *Turt. C. D. p.* 132. Orbicular, rather compressed, small, thin, smooth; ears large, nearly equal; either pale fawn mottled with red and brown, or white or yellow. 0,22..0,22. *England. This may prove identical with Similis of Laskey.*

P. ORBICULARIS. *Sow. Th. f.* 231,2. Orbicular, inequivalve smooth, thin, nearly equilateral; ears nearly equal; upper valve ventricose, horn-coloured with a broad submarginal band of dark purplish brown and speckled with lighter brown; lower valve rather depressed, much lighter, with only light brown speckles; posterior ear very strongly emarginated.  $\frac{3}{4}$ ... $\frac{2}{3}$ . *Africa*.

P. HYALINUS. *Poli, t.* 28. *f.* 6.—*Philippi. 1, p.* 80.—*Sow. Th. f.* 66,7,—Orbicular, smooth, hyaline, rather compressed, the sides somewhat expanded; ears large, nearly equal, acutely angulated, flat; red with small angulated marks of brown and white arranged in rays. *Variety.* Without spots.  $\frac{1}{2}$ ...1. *Mediterranean*.

P. FLAGELLATUS. *Lam. 16.—Del. t.* 16. *f.* 4,7.—*Sow. Th. f.* 41,2,3. Squarish round-shaped, thin, compressed, nearly transparent, irregularly ribbed or striated, horn coloured; pinkish or yellowish at the sides and auricles, with minute angular marks of white and brown; ears large and acute. *Variety.* Blackish brown.  $\frac{1}{8}$ ... $\frac{1}{4}$ . *Mediterranean*.

P. GLABER. *Ch. f.* 642,3.—*Lam. 20.—Sow. Th. f.* 169 to 176.—OSTREA G. *Lin. 1146.—D. p.* 264.—*W. t.* 10. *f.* 41.—*Knorr. 2, t.* 10. *f.* 2.—Including P. VIRGO? *Lam.* Orbicular, rather flattened, smooth or radiately striated, spreading at the sides; ears nearly equal, broad, acutely angulated; extremely variable in colouring, in those which are variegated the markings angular and defined; ribs ten, rather rounded, slightly raised near the umbones, flattened so as almost to disappear near the margin, the alternate ones much less elevated. 2...2 $\frac{1}{8}$ . *Mediterranean*.

P. DISCORS. *Chemnitz. f.* 2042. P. PROTEUS. *Sow. Th. f.* 53,4, 83,4.—OSTREA P. *D. p.* 265.—*W. t.* 10. *f.* 42. Subtriangular, compressed, subinequivalve, smooth, or obsoletely striated; ears

nearly equal, substriated; upper valve more ventricose, overlapping the margin of the other, the five ribs broad and rounded; lower valve with four broad ribs which are almost in pairs; colouring very variable, being orange or purple, either uniform or mottled, yellow variegated with grey and intermediate rays, and greyish with zebra-like markings of brown.  $1\frac{1}{10} \dots 1\frac{1}{8}$ . *Adriatic*.

*P. SULCATUS*. *Lam.* 21.—*Sow. Th. f.* 179, 180. 1.—*Philippi.* 1. p. 79.—*OSTREA S. BORN.* t. 6. f. 3.—*D. p.* 255. (*partly*).—*P. FLAVIDULUS*. *Lam.*—*P. SOLARIS*. *Ch. f.* 638.—*OSTREA, S. W.* t. 10. f. 40. Orbicular, rather flattened, with radiating striæ; ears nearly equal, broad and acutely angulated; orange colour, blackish brown or nearly white with brown spots; with ten ribs which are grooved, rounded elevated and equal.  $1\frac{1}{2} \dots 1\frac{3}{10}$ . *Mediterranean*.

*P. UNICOLOR*. *Sow. Th. f.* 5, 6.—*Lam. ?* 23.—*Reeve. Sys. t.* 114. f. 5?—*Regenf. t.* 11. f. 50?—*Knorr. l. t.* 8. f. 5? Rounded, rather irregular, inequivalve, rather ventricose, rather smooth; ears nearly equal and striated; upper valve the more ventricose and overlapping the margin of the other, its nine ribs rather distant, rounded and somewhat depressed; lower valve rather flat, its ribs less elevated; plain orange, or pale red with concentric bands of light brown.  $1\frac{1}{2} \dots 1\frac{1}{10}$ . *Black Sea*.

*P. FLEXUOSUS*. *Lam.* 38.—*Sow. Th. f.* 200 to 205.—*OSTREA F. POLI.* 2. t. 28. f. 1, 2, 5, 11.—*P. POLYMORPHUS*. *Jay.*—*Philippi. p.* 79?—*P. ISABELLA*. *Lam.* 26. Subequilateral, rounded-fan-shaped, more or less ventricose, smooth or with obsolete radiating striæ, the margins usually inflected; ears nearly equal, radiated, straight, acutely angulated, emarginated at the base; with five large gradually elevated ribs, sometimes with five small intermediate ones; variable in colouring: internal ribs in pairs, dentated at the margin.  $\frac{3}{4} \dots \frac{1}{2}$ . *Mediterranean*.

*P. UNDULATUS*. *Sow. Th. f.* 206, 7. Very like the last, but the sides more spread, the margins angularly inflected, the ribs more elevated: upper valve yellowish red, purple internally; under valve white, tinted with rose.  $1\frac{1}{2} \dots 1\frac{3}{10}$ . *Mediterranean?*

*P. ELEVATUS*. *Sow. Th. f.* 14, 15.—*OSTREA ELEVATA. Poli. t.* 28. f. 17. & *O. INFLEXA. f.* 4, 5? *P. ASPERSUS. Philippi. p.* 81? Rounded subtriangular, inequivalve, subequilateral, depressed, most minutely cancellated, the umbones acuminate, the ventral margin denticulated and usually inflexed; ears small, the anterior the less; upper valve slightly hollowed in the centre, with five large elevated gradually depressed ribs, which near the umbones are angulated, near the margin inflated; extremely pale rufous, variegated with small red and radiating brown spots; lower valve white, rather ventricose, with four large broad rounded and elevated ribs.  $1\frac{1}{2} \dots 1\frac{1}{10}$ . *Sicily*.

*P. DANICUS*\*. *Chem. f.* 2043.—*Sow. Th. f.* 16. & 187.—*E. t.* 212. *f.* 6.—*P. ASPERSUS. Lam.* 17.—*OSTREA HYBRIDA. Gmel.* 3318.—*D. p.* 251.—*O. TRIRADIATA. W. t.* 11. *f.* 39. *Variety. P. PSEUDAMUSIUM. Ch. f.* 601,2.—*OSTREA H. W. t.* 10. *f.* 10. Compressed, nearly circular, subequilateral, smooth or with obsolete radiating striæ; pale red, sprinkled with crowded minute irregular darker spots, with seven broad scarcely raised angular ribs which are fainter near the margins.  $1\frac{1}{2}$ ... $1\frac{3}{4}$ . *Scotland, Denmark.*

*P. DISTANS. Lam.* 25.—*Sow. Th. f.* 182.—*Knorr. 2. t.* 18. *f.* 5.—*Gualt.* 74. A.B. Nearly oval, rather compressed, subequilateral, radiatingly striated; hinge obliquely plicated; ears nearly equal, the posterior emarginated at the base: light cream-coloured with spots and bands of a very dark brown, the ten ribs rounded, elevated and thick; brown within. 1,87...1,54. *Philippines.*

*P. RASTELLUM. Lam.* 14.—*Sow. Th. f.* 30.—*Del. t.* 16. *f.* 1, 2, 3. Rounded, compressed; the ears large, radiatingly striated, and emarginated at the base, with erect sharp scales on the edges. Ribs nine, gradually shelving down, the three central ones rather large and rounded, with small triangular scales on the top, the lateral ones rather smaller and angulated, the scales on the extreme ones sharp and erect: orange with angular brown spots on the interstices and the sides spotted, or white with brown spots.  $1\frac{1}{2}$ ... $1\frac{3}{4}$ . *Northern Seas.*

*P. PICTUS. Sow. Th. f.* 233. Obliquely ovate, compressed, striated at the sides; ears nearly equal, (the edge of that of the under valve serrated,) radiately striated, emarginated at the base; dull white variegated with broad irregular bands fine transverse lines and spots of red; the thirteen ribs square at the top with slanting sides, the interstices narrow, defined by two small grooves and crenulated: inside white.  $\frac{1}{10}$ ... $\frac{1}{2}$ . *Isle of Baicus.*

*P. SUPERBUS. Sow. Th. f.* 11. Suboval, oblique, anteriorly spread, flat, solid; ears small and obtuse; pale straw coloured, pale pink near the umbones, variegated with interrupted angular bands of brightish red; with twenty-three thick rounded and smooth ribs, the interstices narrow.  $2\frac{1}{2}$ ... $2\frac{3}{4}$ .

*P. HISTRIONICUS. Lam.* 32.—*Sow. Th. f.* 240.—*Reeve. t.* 114\*. *f.* 1.—*OSTREA H. Gmel.* 3326.—*Ch. f.* 614.—*W. t.* 10. *f.* 20.—*Knorr. 4. t.* 12. *f.* 3.—*E. t.* 213. *f.* 8.—*OSTREA SULCATA* (partly). *D. p.* 255. Obliquely suboval, compressed, subequivalve, lower valve the more ventricose; the auricles striated, the anterior the smaller the posterior emarginated at the base; nearly white, in the upper valve some of the ribs spotted with red, the intermediate with black, the seven central ribs broad rounded smooth on the top and serrated at the sides, the three lateral ribs

on each side much narrower and serrated across: lower valve with but twelve ribs, the lateral alone serrated.  $1\frac{1}{2}$ ..1. *Ceylon and Singapore.*

P. RADULA. *Lam.* 13.—*Sow. Th. f.* 154, 5.—*E. t.* 208. *f.* 2.—*OSTREA R. Lin.* 1145.—*W. t.* 10. *f.* 11.—*D. p.* 251.—*List. t.* 175. *f.* 12.—*Ch. f.* 599, 0.—*Knorr. 5. t.* 9. *f.* 4. Subtriangular, thick, compressed, scabrous, with radiating sulci, anteriorly subelongated at the margin, the sides flattened; ears nearly equal, obtuse, roughly ribbed, emarginated at the base; pale yellowish spotted with brown or black, sometimes nearly covered with brown bands, with from nine to twelve elevated squarish ribs, which are thick, radiately grooved and concentrically striated, the interstices broad and sulcated; hinge obliquely plicated.  $3\frac{1}{2}$ ... $3\frac{3}{4}$ . *Ceylon.*

P. VELUTINUS. *Sow. Th. f.* 31. Suboval, rather compressed, equilateral, with fine radiating striæ, rather swelled at the margin; the ears nearly equal, striated; hinge obliquely plicated; reddish fawn coloured, with variegated angular bands of white margined with brown, with five thick and rounded ribs which gradually become fainter.  $1\frac{1}{2}$ ... $3\frac{3}{4}$ . *Macassar.*

P. NODULIFERUS. *Sow. Th. f.* 38, 39, 94. Subtriangular, rather compressed, with radiating striæ, equivalve; ears radiately sulcated, the posterior slightly the larger; hinge obliquely plicated; red with angular spots, (clouded inside) and eight thick rounded and nodulous ribs which are internally plicated at the margin. 1.46..1.36 *Not unlike Corallinoides.*

P. SUBPLICATUS. *Sow. Th. f.* 37, 72, 73, 81. Equivalve, subtriangular, subequilateral, depressed, with radiating striæ; ears large, striated, the anterior the larger and nearly rectangular; hinge obliquely plicated; light cream coloured, with angular patches of dark blackish brown or brick red, with five broad scarcely elevated ribs, the interstices very broad; inside brown particularly about the hinge.  $1\frac{1}{2}$ .. $1\frac{2}{3}$ . *Amboyna.*

P. PLICA. *Lam.* 19.—*Sow. Th. f.* 237, 8, 9.—*OSTREA P. Lin.* 1145.—*D. p.* 252.—*Ch. f.* 598 & 2041.—*W. t.* 10. *f.* 13. Rounded-trigonal, ventricose, thick, with radiating striæ, flattened near the umbones; ears small, nearly equal, obtuse, striated, contracted at the sides; variable in colouring, usually with large patches of a dark colour on a light ground, the three central ribs thick and rounded, the two on each side of them much smaller; internally with tooth-like plaits, the hinge brown and plicated.  $1\frac{1}{2}$ ... $1\frac{3}{4}$ . *Nicobar, Ceylon, China.*

P. CORALLINOIDES. *D. Orb. Mol. Can. p.* 102.—*Sow. Th. f.* 3, 4. Rounded, ventricose, equivalve, with radiating striæ, anteriorly produced, red, clouded, the ribs alternately paler; ears sulcated, obtuse, the posterior the larger, emarginated at the base, hinge

obliquely plicated; ribs ten, thick, broad, with parallel nodosities, internally with tooth-like plaits.  $2\frac{1}{10} \dots 1\frac{9}{10}$ . *A smaller shell than Nodosus, with the ribs equal and the knobs less considerable.*

P. MAGNIFICUS. *Sow. Zool. Pr.* 1835.—*Sow. Th. f.* 114. Subequivalve, equilateral, bright red, auricles unequal, with small very crowded radiating striæ, and thirteen radiating ribs which are thickish rounded sometimes subnodose; inside white with a purple margin.  $5\frac{1}{2} \dots 5\frac{1}{2}$ . *E. Columbia.*

P. SUBNODOSUS. *Sow Z. P.* 1835.—*Sow. Th. f.* 97, 112. Subequivalve, equilateral, the ears unequal, with very crowded radiating striæ, and ten thick rounded radiating ribs, which are alternately subnodulous, or armed with bladder-like knobs; inside usually stained with purple.  $5\frac{1}{4} \dots 5$ . *Californian, Var.* Brownish red with white striæ. *Columbian Var.* Variegated with brown and white patches. *Mexican Var.* Bright orange, more depressed. *Probably a variety of Nodosus.*

P. NODOSUS. *Lam.* 27.—*Sow. Th. f.* 115 and 147.—OSTREA. N. *Lin.* 1145.—*D. p.* 254.—*W. t.* 10 f. 18.—*Rump. t.* 48. f. 8.—P. CORALLINUS. *Ch. f.* 609.—*Arg. t.* 27, F. Orbicular, ventricose, reddish brown or bright orange, subequilateral, equivalve, with radiating sulci; ears unequal, sulcated, the posterior the larger, emarginated at the base; hinge plicated; the nine thick ribs armed with hollow round knobs, alternately smaller, internally in pairs, toothed at the margin.  $5\frac{1}{4} \dots 5$ . *Brazil and Isle of France.*

P. MUSCOSUS. *Wood Sup. t.* 2. f. 2. Subquadrate, extremely ventricose, equilateral, equivalve, reddish brown, scabrous; ears unequal, elongated-acute, with scabrous sulci, notched at the base, the posterior the longer: umbones prominent; the eighteen scabrous and subangulated ribs armed with short straight spines at the angle, and toothed at the margin.  $1\frac{1}{2} \dots 1\frac{3}{4}$

P. RUGOSUS. *Sow. Jun. Z. P.* 1842.—*Sow. Th. f.* 226. Oval, ventricose, thick, scabrous, equivalve, subequilateral, pale yellowish, obscurely mottled with smoky brown, with twenty elevated ribs armed with numerous small annulated scales, their edges serrated, and their interstices smooth: ears unequal, with scabrous sulci, the anterior the smaller, the posterior notched at the base.  $1\frac{1}{8} \dots 1\frac{1}{4}$ . *Philippines.*

P. PES FELIS. *Lam.* 29.—*Sow. Th. f.* 162 and 234.—*Reeve. t.* 114. f. 4.—*Philippi. p.* 84. OSTREA P. *Gmel.* 3323.—*W. t.* 10. f. 19.—*D. p.* 255.—*Ch. f.* 612, 3.—O. BORNII. *Pay. p.* 76.—O. ELONGATA. *Born. t.* 6. f. 2. ?—O. CORALLINA, *Poli 2. t.* 28. f. 16. Oval subtriangular, compressed, scabrous, with radiating sulci, equivalve, subequilateral, thick, reddish brown variegated



with black bands and white spots (also a purple variety); with eight broad thick elevated and sulcated ribs, the interstices broader and sulcated; ears unequal, with nodose sulcations, the anterior small, the posterior large.  $2\frac{1}{2} \dots 2\frac{3}{4}$  *Mediterranean, &c.*

P. PARVUS. *Sow. Z. P.* 1835.—*Sow. Th. f.* 227, 8. Subovate, rather depressed, subequivalve, equilateral, whitish; ears unequal and granulated; white with eight unequal transversely striated radiating ribs, the interstices with radiating sulci and transverse striæ.  $\frac{3}{4} \dots \frac{1}{2}$  *Lord Hood's Island.*

P. IMBRICATUS. *Lam.* 31.—*Reeve. t.* 114\* *f.* 2.—*Sow. Th. f.* 32, 3.—OSTREA I. *Gmel.* 3318.—*D. p.* 252.—*E. t.* 214. *f.* 2.—*W. t.* 10. *f.* 12. (*Worn shell.* O. SAUCIATA. *Gmel.*—*Ch. t.* 69, *H.*—*W. t.* 10. *f.* 32.) Subtriangular, flat, nearly smooth, subequivalve; ears unequal, flat, knobbed at the margin, the anterior small and nodose, the posterior large and acute; upper valve flat, with nine rounded subangulated ribs, which are armed with hollow imbricated tubercles, and alternately depressed: lower valve subventricose, the ten ribs noduliferous and equal. White spotted with purple, the ribs alternately spotted with red; inner disc yellow, the margin purple.  $1\frac{1}{2} \dots 1\frac{3}{4}$  *Red Sea.*

P. RUBROMACULATUS. *Sow. Th. f.* 34. Oval subtriangular, equivalve, subequilateral, somewhat compressed: ears unequal, with scabrous sulci, the anterior small, the posterior large; ribs eighteen, scaly near the margin, alternately depressed and smaller, the interstices slightly striated; ribs of the lower valve numerous, minutely squamular, unequal; sulphur coloured, the more depressed ribs with deep red spots in the centre of the shell.  $1 \dots 0.92$ .

P. TIGRIS. *Lam.* 30.—*Sow. Th. f.* 95, 6.—*Ch. f.* 608.—*Phil. Conch. Pecten, t.* 1, *f.* 6. Subequivalve, obliquely subtriangular, somewhat flat, rather scabrous, with strong internal ribs; ears unequal, sulcated, the anterior small, the posterior acutely angulated; yellowish white with tiger-like stripes of dark reddish brown, and eleven strongly grooved radiating ribs which are angulated above, (the lateral ones small) the interstices grooved; within yellow, with a black band on the hinge and a pink spot at the base of the posterior auricle of the upper valve.  $1\frac{1}{2} \dots \frac{3}{4}$  *Philippines.*

P. MADREPORARUM. *Petit.*—*Sow. Th. f.* 68. *Phil. Conch. Pecten, t.* 2, *f.* 4, 5. Obliquely ovate, compressed, irregular, with radiating striæ; ears unequal, the posterior large, the anterior small; white with black spots and seven obsolete distant ribs.  $\frac{1}{2} \dots \frac{3}{4}$  *Red Sea.*

P. TEMPLA. *Sow. Th. f.* 90.—OSTREA T. *W. S. t.* 2. *f.* 3. Subquadrate, irregular, subequivalve, compressed, foliaceous; brown very slightly variegated; ears unequal, the posterior very

<sup>1</sup> The P. SAUCIATUS of *Lam.* is probably a variety of *Ornatus*.

large, and in the lower valve very strongly emarginated; ribs of the left valve from 9 to 13, thick, irregular, unequal, armed with coarse subquadrate scales, the interstices with irregular radiating sulci; of the right valve numerous and squamiferous.  $2\frac{1}{2}$ . Japan.

P. LIVIDUS. Lam. 58.—Sow. Th. f. 61, 89, 91.—Ast. t. 76, f. 4, 5, 6.—Var. P. SULPHUREA. Lam. 57.—Ch. f. 629. Irregular, suboval, subequivalve, compressed, foliaceous; ears unequal, large, the posterior the larger and in the lower valve very strongly notched; with from 16 to 20 ribs which are unequal, scarcely raised, and armed with numerous acute scales, the interstices with irregular radiating sulci; variegated purplish brown, with the scales white or yellow. Variety. Scarcely mottled. Variety. Yellow.  $2\frac{1}{2}$ ... $2\frac{1}{4}$ ...Red Sea and Japan.

P. SQUAMOSUS. Sow. Th. f. 48, 49, 50, 88, 92, 93.—OSTREA, S. Gmel.—List. t. 184, f. 21.—P. HYBRIDA (in part) Lam. 56. Variety B.—P. ARAUCISANUS. Ch. f. 630, 1. Irregular, suboval, subequivalve, flat, foliaceous; ears large, unequal, the posterior the larger, and in the lower valve very strongly notched; variable in coloring (often marked with fine ziczac lines of white, with from 12 to 18 almost obsolete, scaly ribs, which grow faint at the umbones, and in the lower valve are numerous and very slightly angulated.  $2\frac{1}{10}$ ... $1\frac{1}{2}$ ...Northern Ocean.

P. SERRATUS. Sow. Th. f. 56. Obliquely oval, irregular, anteriorly somewhat produced, rather compressed; the ears unequal, the anterior the smaller; sulphur coloured, with large brown spots, the ribs numerous and most minutely scaly: inside purple at the margin.  $1\frac{2}{3}$ ... $1\frac{1}{2}$ . Philippines.

P. IRREGULARIS. Sow. Th. f. 51, 2. Obliquely oval, subinequivalve; ears unequal, with scabrous sulci, the anterior small and obtuse, the posterior large and acute; scarlet with seven rays of interrupted white, mottled with purple; ribs numerous, small, scabrous, and subangulated.  $1\frac{2}{3}$ ... $\frac{1}{2}$

P. SQUAMATUS. Sow. Th. f. 57, 58.—Gmel. 3329.—List. t. 183, f. 20.—P. RASTELLUM. Reeve. Sys. t. 114\*, f. 3. Rounded, subtriangular, compressed, irregularly subequivalve, upper valve very slightly the more convex; ears large and costated, with pointed scales, the posterior broad and somewhat acutely angulated; dull clouded brown, with, in one valve, from five to seven red broad rounded irregular ribs, which are armed with pointed scales, and fifteen smaller interstitial ones, the interstices most minutely punctated; in the other valve the ribs are irregular, scaly, and unequal.  $1\frac{1}{2}$ ... $1\frac{1}{2}$ . There is a white variety.

P. BRUEI. Payr. p. 78, t. 2, f. 10, 11.—Sow. Th. f. 241, 2. Suborbicular, equivalve, subequilateral, yellow; rays of the upper

valve alternately irregular in size, longitudinally lineated, and finely squamular, rays of the lower valve similarly irregular and papillary, but disposed in pairs; one ear minute.  $\frac{1}{2}$ . *Cor-sica*; not unlike *Pusio*, (of Sow.) but the ribs larger and more rugose.

P. LANDSBURGI\*, *Forbes Wern. Mem* 8, t. 2, f. 2.—P. ACULEATUS. *Jeffrey's in Conch. Mag.*—*Sow. Th.* f. 47.—*Ch. f.* 637, b. c. Equivalve, suboval, thin, with radiating striæ which are rough with raised dots and minute spines: ears unequal, the posterior large, the anterior small, and in one valve strongly emarginated; pale yellow, clouded with red.  $\frac{2}{10}$ ... $\frac{3}{4}$ . *Great Britain*.

P. CORNEUS. *Sow. Th. f.* 44, 5 and 244, 5. Transparent, thin, horn coloured, equivalve, rounded oval, obliquely subequilateral; ears unequal and ribbed, striated at the base, the anterior small, the posterior large; ribs smooth, indistinct, flattened, crowded, the interstices with most minute concentric striæ. YOUNG. Radiated with several brown bands.  $\frac{1}{2}$ ... $\frac{2}{10}$ . *Magellan*.

P. OBSOLETUS\*. *Pennant* 4, p. 222, t. 64, f. 3.—*Don. t.* 1, f. 2.—*Turt. B.*, p. 213, t. 9, f. 6.—OSTREA, O. *D. p.* 263.—*Sow. Th. f.* 74, 75, 79,—*W. t.* 10, f. 37. P. TRIRADIATUS, FUCI, TIGERINUS. *Muller Zool. D. t.* 60, f. 1 to 8.—OSTREA, T. *Gmel.* 3327.—*D. p.* 258. *W. t.* 10, f. 27.—P. DOMESTICUS. *Ch. f.* 2031 to 6. Oval subtriangular, subventricose, equivalve, subequilateral, smooth or obsoletely striated; the ears very unequal, the anterior minute and quite smooth, the posterior large and sulcated; varying in colour, usually mottled with large spots of purple and white upon a yellow or light purple ground. *England, &c.*

P. HASTATUS. *Sow. Th. f.* 236. Oval subtriangular, rather elongated, rough; ears unequal, the anterior minute, the posterior large roughly sulcated; upper valve with eight unequal very elevated angular ribs armed with numerous erect slightly curved sharp spines, numerous smaller spinose ribs in the interstices; lower valve with twenty-two more nearly equal ribs, with more numerous and smaller spines on the angles: red, white within. 1, 15...0, 95.

P. VITREUS. *Chem. 7, f.* 637, a.—*Phil Conch. Pecten*, t. 2, f. 3.—OSTREA, V. *W. t.* 10, f. 36. Nearly orbicular, thin; one of the valves milky white, flattened convex, with rather distant concentric striæ, which, when magnified, appear to have their lower edges indented at regular intervals, and very delicate minute radiating striæ; auricles very unequal.  $\frac{2}{5}$ ... $\frac{3}{5}$ . *According to Chemnitz it is found in the Northern Seas, and is equivalve, but our description is derived from only a single valve. This species is quite distinct from the Vitreus of King (Zool. Jour.) or of Sowerby. (Thes. Conch.)*

P. ORNATUS. *Lam. 50.*—*Sow. Th. f.* 77, 78, 80.—*Ch. f.* 625, 6, 7

—*E. t.* 214, *f.* 5.—*Am. Mar.* 5, *t.* 2, *f.* 3.—*List. t.* 175. *Smaller figures.*—*OSTREA PELLUCENS.* *W. t.* 10, *f.* 24. Oval subtriangular, compressed, equivalve, scabrous; ears unequal, the anterior minute, the posterior large, acute, and sulcated; upper valve with numerous unequal alternately more prominent ribs; those of the lower valve in pairs; interstices scabrous: nearly white, variegated with undulating banded patches of deep red generally interrupted by three of the ribs being white. *Var.* Nearly uniform dark red; 1, 10...0, 93...*W. Indies.*

*P. ALBOLINEATUS.* *Sow. Jun. Z. P.* 1842.—*Sow. Th. f.* 69. Oval-subtriangular, compressed, equivalve; ears unequal, the anterior minute, the posterior large acute and sulcated; ribs very numerous equal and rather square, the interstices smooth: nearly white with grey spots on the under valve, and in the upper valve the tops of all the ribs excepting three grey, the spaces between the white ribs being crossed by narrow lines of white. 1, 15...0, 93. *Philippines.*

*P. SANGUINOLENTUS.* *Sow. Th. f.* 59.—*OSTREA S. Gmel.* 3322.—*D. p.* 253.—*Ch. f.* 608.—*W. t.* 10, *f.* 16. Oval subtriangular, scabrous, subequivalve, subequilateral; ears unequal, acute, with nodulose sulci, the anterior the smaller: white tinged with rose-colour, variegated with distant broad red bands on the nine thick much raised and squarish ribs, which have nodulous sulci and are serrated on their sides, the interstices large and nodulously sulcated; hinge obliquely plicated.  $1\frac{1}{2}$ ... $1\frac{3}{4}$ . *Red Sea, not unlike Pallium.*

*P. PALLIUM.* *Lam.* 28.—*Sow. Th. f.* 148, 167.—*Reeve, t.* 114, *f.* 4.—*OSTREA, P. Lin.* 1145.—*D. p.* 253.—*W. t.* 10, *f.* 15.—*Ch. f.* 607.—*List. t.* 187, *f.* 25.—*E. t.* 210, *f.* 1.—*Knorr. 2. t.* 21. *f.* 1, 2. Suborbicular, compressed equivalve, subequilateral; the ears unequal, with nodulous sulci; ribs fourteen to sixteen, elevated, thick squarish, divided into three, armed with three rows of thin sharp scales on each rib, the interstices rough with scaly striæ; white, with bands of purple spots: inside white, the margins toothed and orange. *Variety.* Orange with white spots.  $3\frac{1}{4}$ ... $3\frac{1}{2}$ . *South Seas.*

*P. SPINIFERUS.* *Sow. Z. P.* 1835.—*Sow. Th. f.* 229, 230.—

*P. PULCHERRIMUS.* *Gray in Beechey Zool.* Subovate, rather depressed, subequivalve, equilateral; ears unequal: the nine broad ribs armed with fimbriated scales: the anterior posterior and dorsal edges spinulose in one of the valves. 0, 25...0, 9. *Lord Hood's Island.*

*P. TRANQUEBARICUS.* *Lam.* 25.—*Sow. Th. f.* 12, 13.—*OSTREA, T. Gmel.* 3328.—*Ch. f.* 647.—*W. t.* 10, *f.* 45.—*E. t.* 212, *f.* 4.—

O. NUCLEUS (*in part.*) *D. p.* 267. Oval subtriangular, ventricose, equivalve, equilateral, thick; ears unequal and sulcated, the anterior moderate and straight, the posterior larger and acute: uniform orange, or nearly white with large defined brown patches; with eighteen nearly smooth elevated squarish ribs, whose sides are most minutely serrated.  $1\frac{2}{3} \dots 1\frac{7}{10}$ . *Tranquebar.*

P. SINGAPORINUS. *Sow. Th. f.* 55 and 71. Rounded subtriangular, rather compressed, equivalve, equilateral, rather thin; ears unequal, the posterior large; white tinged with pink, with four broad brown lineated rays, the twenty-four ribs elevated subquadrate and smooth, spotted with grey near the umbones  $1\frac{3}{10} \dots 1\frac{3}{10}$ . *Singapore. A much greater number of less elevated ribs than in the preceding.*

P. SENATORIUS. *Lam. 44.—Sow. Th. f.* 151, and 188 to 191. —OSTREA, S. *Gmel. 3327.—D. p.* 256 —*W. t.* 10, *f.* 22.—*Ch. f.* 617.—*E. t.* 211, *f.* 5.—O. PORPHYREA. *Gmel.—D. p.* 260.—*Ch. f.* 632.—*W. t.* 10, *f.* 30.—P. AURANTIUS. *Lam. 45.—O. CITRINA. Gmel.—W. t.* 10, *f.* 23.—*D. p.* 257.—*Ch. f.* 618.—P. FLORENS. *Lam. 46.—Del. t.* 15, *f.* 6. Oval subtriangular, rather depressed, equivalve, nearly smooth, anterior side very slightly spread; ears unequal, the anterior usually obtuse, the posterior elongated and emarginated at the base; ribs from twenty to twenty-four, rather elevated, smooth or minutely serrated, armed with annular scales which are crowded at the sides: colour extremely variable.  $2 \dots 1\frac{1}{2}\frac{7}{10}$ . *Indies, Moluccas, Red Sea.*

P. CRASSICOSTATUS. *Sow. Th. f.* 111, 152. Suborbicular, thick, subequilateral, nearly smooth; ears unequal, rayed with squamular ribs; pale purple or orange, with twenty-four thick elevated squarish annulated ribs, the lateral armed with scales, the interstices nearly smooth: white within.  $4\frac{3}{10} \dots 4\frac{1}{2}$ . *Larger than the preceding, with its ribs more square and elevated.*

P. ISLANDICUS. *Lam. 42.—Sow. Th. f.* 159, 160, 161.—*Gould. Mass.—OSTREA, T. Gmel. 3826.—W. t.* 10, *f.* 21.—O. CINNABARINA. *D. p.* 256.—*Ch. f.* 615, 6.—*E. t.* 212, *f.* 1. Oval, rather compressed, subequivalve, subequilateral, thin, very slightly spread anteriorly; ears unequal, with scabrous sulci, the posterior large; orange with concentric bands, or white or purple with concentric and radiating bands, the extremely crowded irregular unequal serrated ribs grouped together in twos, threes, or fours.  $3\frac{1}{4} \dots 3$ . *N. Ocean.*

P. ASPERRIMUS. *Lam. 43.—Del. t.* 15, *f.* 1.—*Sow. Th. f.* 156, 7, 8.—OSTREA, A. *W. S. t.* 2, *f.* 1. Rounded suboval, ventricose, thin, equivalve, inequilateral, with scabrous sulci, anteriorly rather spread; ears unequal, with scabrous sulci; reddish brown, orange,

or purple, with twenty-five angulated ribs whose sides are serrated, and angle armed with erect scales, no interstices.  $3\frac{1}{2} \dots 3\frac{1}{10}$ . *New Holland*.

*P. AUSTRALIS*, *Sow. Th. f.* 210, 220. Suboval, ventricose, thickish, equivalve, inequilateral, anteriorly somewhat spread; ears unequal, with scabrous sulci; the twenty-three thick subangulated ribs composed of two rows of small sharp points, and a central ridge with scales, the interstices flat.  $1\frac{1}{2} \dots 1\frac{9}{10}$ . *Swan River*.

*P. VARIUS*\*. *Pen.* 4, p. 221, t. 64, f. 1.—*Lam.* 47.—*Mont. p.* 146.—*Turt. B. p.* 214. *Sow. Th. f.* 214, 218.—*OSTREA*. *V. Lin.* 1146.—*D. p.* 260.—*W. t.* 10, f. 31.—*Don. t.* 1, f. 1.—*Ch. f.* 633, 4.—*List. t.* 180 and 181, f. 18, t. 189, f. 23.—(*Da Cos. t.* 10, f. 1, 4, 5, 7.)—*O. MURICATA*, *PUNCTATA*, *VERSICOLOR*. (*Sow. Th. f.* 216.) *INCARNATA*, *Gmelin*. Suboval, thin, not quite regular; upper valve slightly the larger, the umbones narrow and ventricose; ears very unequal, rough with muricated sulci, the anterior small and obtuse, the posterior large, acute, and in the upper valve considerably overlapping the other at the margin, with the sinus very large: extremely variable in colouring, (when mottled the white patches are usually angulated) the squarish and distant ribs are from twenty-seven to thirty, and muricated by distant erect sharp scales; the interstices smooth, and rather larger than the ribs.  $2\frac{1}{2} \dots 2$ . *Great Britain and Mediterranean*. *P. Pusio* *Lam.* (not *Lin.*) *I regard as a depauperated variety*.

*P. SPLENDIDULUS*. *Sow. Th. f.* 246. Subtriangular, thin, compressed, angulated at the sides, ears very unequal, with scaly sulci, flat, the posterior broad and elongated, the sinus large; red, banded at the sides and ears with elongated white spots, the twenty-five neat rather distant and rounded subquadrate ribs armed with distant erect and acute scales.  $1\frac{7}{10} \dots 1\frac{1}{2}$ . *Singapore*. *More compressed and regular than the last*.

*P. SANGUINEUS*. *Lam.* 48.—*Sow. Th. f.* 221, 2.—*OSTREA*, *S. Lin.* 1146.—*D. p.* 259, *in part*.—*Ch. f.* 628.—*W. t.* 10, f. 29. Oval, rather compressed, regular, equivalve, subequilateral; ears unequal, with muricated sulci, the margins elevated, the posterior elongated: the twenty-five thick subangulated ribs armed with numerous erect angulated small scales, and toothed at the margin, the interstices narrow and flat: blood red variegated with white or grey. *Var.* Mottled with black and white.  $1\frac{1}{2} \dots 1\frac{7}{10}$ . *Philippines*.

*P. MINIACEUS*. *Lam.* 54.—*Del. t.* 16, f. 6.—*Sow. Th. f.* 247. Oval, compressed, subequivalve; ears unequal, with minute scabrous sulci; red variegated by white undulating patches beneath which the ribs are crossed by minute concentric lines; the thirty rounded ribs minutely serrated at the sides and annulated by obliterated scales, the interstices flat.  $1\frac{1}{10} \dots 1\frac{9}{10}$ .

## PLICATULA

*Inequivalve, not auriculated, contracted towards the beaks, the ventral margin rounded and more or less folded; beaks unequal and devoid of external ligamental areas. Hinge provided with two strong teeth in each valve which enclose the ligament between them.*

P. RAMOSA. Lam. 1.—Desh. Enc. Met. 3, p. 801.—Crouch Int. t. 12, f. 5.—SPONDYLUS PLICATUS (in part), Dil. 210.—Ch. f. 479, 0.—Mawe Conc. t. 11, f. 2.—Oblong triangular, very thick, white with ferruginous longitudinal lineoles; folds large and forked: hinge usually reddish, teeth striated.  $1\frac{1}{2}$ . America.

P. DEPRESSA. Lam. 2.—Desh. Enc. Meth. 3, p. 801. Oblong oval or subtriangular, usually more or less depressed, white with numerous small irregular brown spots which are chiefly upon the folds, which latter are numerous small and usually only apparent towards the margins; hinge dark brown; interior often stained with the same colour especially upon the scars.  $1\frac{1}{2}$ . America? Lamarck refers with doubt to Gualt. 104, F. which is probably an Ostrea.

P. CRISTATA. Lam. 3.—List. t. 210, f. 44.—Ch. f. 481, b.—Blain. t. 62, f. 2.—Henderson's Cuvier, t. 31, bis. f. 9. Oblong wedge-shaped, whitish or ferruginous, adorned with chocolate brown interrupted lines which are chiefly present upon the folds; these latter are large, deep, simple, angulated and few in number, with frequently the appearance of being crested by the scales which in perfect specimens surmount their angles in one or both the valves. VAR. Quite white. 1. America; W. Indies?

P. RENIFORMIS. Lam. 4.—Sloan Jamaic. Histor. t. 241, f. 20, 21. Rounded, subarcuated, white, the folds simple, obtuse, squamiferous, and diverging. 1 Jamaica. The Type in the French Museum is rather depressed and has but seven or eight folds.

P. AUSTRALIS. Lam. 6. More or less rounded or ovate, rarely if ever triangular, generally depressed and almost always attached by the whole of the lower valve; whitish or ferruginous with numerous dark dots or small spots; surface not folded but with very numerous close set squamular radiating riblets, which render the margin slightly wavy but not plicated: inside uniform white. VAR. Quite white.  $1\frac{1}{2}$ . Philippines and Australia.

P. IMBRICATA. Menke Mull. Nov. Holl. p. 35.—Rounded wedge-shaped rather depressed, strong, varying from smoky brown to bright orange, with numerous moderately subangular folds, some of which (in the very large specimens only) are usually forked near their termination, and all more or less armed with large vaulted scales.  $1\frac{3}{4}$ .  $1\frac{1}{4}$ . China; (deep water, sandy mud) W. Australia. I am indebted to the courtesy of the author, for an examination of his type.

**P. PHILIPPINARUM.** *Hanley, in Sow. Th. 1, p. 436, t. 90, f. 9, 11, 13, 14.* Solid, lineated with red or black on a white ground. Folds large, numerous, rarely forked, angular; somewhat imbricated at the angles. \* *Var.* Devoid of ridges. 2. *Philippines.*

**P. DUBIA.** *Hanley, in Sow. Th. 1, p. 437, t. 91, f. 19.* Thin, foliaceous, depressed, roundish, pinkish brown, with a few scattered brown spots; armed with radiating rows of occasionally upturned vaulted scales; folds short, irregular, interrupted. 1½. *Philippines.*

### SPONDYLUS.

*Inequivalve, attached, auriculated, irregularly foliaceous, longitudinally ribbed, generally spinous. Beak of the lower valve usually produced; its flat triangular hinge-area cleft by a linear furrow, in which are imbedded the remains of the earlier cartilage; the latter is internal, and seated in a pit between the massive teeth of each valve.*

**S. GÆDEROPUS,** *Lin. 1136 (partly).—Lam. 1.—Ch. 7, f. 459; & 9, f. 984, 5.—E. t. 190, f. 1.—Phil. Sic. 1, p. 81.—Chenu, Il. C. Spond. t. 2.—Sow. Th. 1, p. 418, t. 87, f. 29; pl. 88, f. 41.—(Kn. 5, t. 13, f. 1).—Var. S. ACULEATUS, Phil. Sic.* Purplish crimson, more rarely white, with only the beaks and margin tinged with that colour. Radiating costellæ numerous, little elevated, close-set, of moderate breadth, usually alternately larger and smaller (yet none peculiarly large or prominent), thickly set with very strong lingulate spines of moderate length; their intervals not excavated or concave, but roughened, by about 5 very narrow and most minutely squamiferous elevated radiating lines. 4. *Mediterranean.*

**S. AMERICANUS.**—**S. GÆDEROPUS,** *Ch. 7, f. 465 (named S. DOMINICENSIS by Boltén).—W. t. 9, f. 1.—S. G. var. D. p. 209.—S. A. Lam. 2.—E. t. 195, f. 1, 2.—Sow. Conch. Man. Front.—Reeve, C. S. t. 116, f. 1.—Chenu, Il. C. Spond. t. 5; t. 3, f. 31.—Sow. Th. 1, p. 418, t. 88, f. 42; t. 89, f. 64.—Young, S. ARACHNOIDEUS, Lam. 3.—(Kn. 5, t. 9, f. 1).* Large; both general surface and raised processes scarlet near the beaks, and white towards the margin; rayed with very numerous rather depressed narrow ribs and costellæ, of which about the 6 principal are armed with close-set very elongated spatulate laminæ, which only in finely developed specimens have a slight tendency to foliation at their apices. The costellæ are aculeated with flat slender spines, several rows of which intervene between the laminæ. 6. *America. The S. AVICULARIS of Lamarck (No. 10), his S. LONGISPINA (No. 8), and the S. STRIATO-SPINOSUS of Chenu (Il. Con. Sp. t. 23, f. 1) are, in all probability, varieties of this shell.*



**S. CANDIDUS.** *Lam.* 4.—*Chenu, Il. C. Spond. t.* 24, *f.* 4.—*Sow. Thes. Conch.* 1, *p.* 429, *t.* 84, *f.* 3, 4, 5. Rather small, white or tinged with red, subfasciated at the beaks with smoke-coloured semi-zones; surface not ribbed, but roughened by very numerous elevated striæ, which are subimbricated by crowded simple scales of an abbreviated lingulate form; interstices adorned with close-set elevated striulæ, which are minutely and obsoletely squamiferous. *Var.* The scales larger, less numerous, and more erect; the interstices very finely striated. 2½. *Lord Hood's I.*

**S. FOLIACEUS,** *Ch.* 7, *p.* 85, *f.* 472, 3.—**S. COSTATUS,** *Lam.* 6.—*Chenu, Il. C. Spon. t.* 22.—**S. SPATHULIFERUS,** *E. t.* 191, *f.* 7.—*Reeve, C. S. t.* 119, *f.* 9.—(*Kn.* 1, *t.* 9, *f.* 2).—**S. PETROSILENUM,** *Sow. Th.* 1, 419, *Spon. f.* 6, 8, 9, 10, 49. Solid, in the more characteristic examples purplish red, with the foliations tinged with that hue, and the armed ribs white. Surface usually shagreened; the ribs strong and prominent, the 5 or 6 principal of them foliated with large, coarse and distant laminæ, which, although only of moderate length and broadly palmated in the more typical specimens, appear sometimes (in large shells chiefly) to be simply spathulate from being much elongated, but almost always evince a disposition to branch out at their apices. The unarmed interstitial costæ are rarely more than two in number, since, upon the appearance of a third, one of the grooves becomes filled up near the margin with white laminæ forming an incipient rib. *Var.* Of an uniform orange tint; the unarmed costæ almost obsolete. *Var.* (*COSTATUS, Lam.*). The aculeation composed of very large distant strong and elongated spines; the ribs subbifid. *Var.?* Of an uniform pink; aculeation as in the preceding, but the unarmed ribs narrower and squamiferous. *The minute shagreening, which even pervades the ribs in very perfect examples, in the stunted palmiferous ones becomes almost obsolete. There are neither interstitial raised striæ nor fine costellæ.* 6. *Mauritius.*

**S. VARIEGATUS.** *Ch.* 7, *f.* 464.—*Lam.* 7.—*Chenu, Il. C. Spon. t.* 10, *f.* 1, 3.—*Sow. Th.* 1, *p.* 425, *t.* 85, *f.* 14, 15. Small, solid, white, with very fine zigzag lines of rufous chocolate diffused over the surface. Ribs, in the more typical examples, coarse, rather far apart, and by no means numerous; (about) the 8 principal of them guarded with strong and rather distant spathulate spines; the intermediate ones unarmed. *Var.* The aculeations simply spinous: only 4 or 5 principal ribs: colouring as in type, except that the surface is more or less tinged with orange near the beaks. *Var.* The aculeations elongated and simply spathulate; principal ribs about 5 in number; white, tinged with chocolate in the intervals of the ribs. 2½. *Amboyna.*

*S. REGIUS.* *Lin. Sys.*—*Ch.* 7, *f.* 471.—*Lam.* 9.—*W.* t. 9, *Sp.* *f.* 2.—*Sow. Th.* 1, *p.* 424, *t.* 87, *f.* 30. Regular, oval, scarcely attached, reddish brown (more rarely of an uniform white) between the ribs and upon the points of the spines: with about 6 principal ribs, each armed with 5 or 6 long straight spines, that are slightly flattened at their termination; their intervals adorned with numerous sharply imbricated smooth costellæ: cardinal area small. 4. *Sooloo Isles.*

*S. COCCINEUS.* *Sow.* (as of *Lam.* 11) *Th.* 1, *p.* 430, *Sp.* *f.* 24, 47. Purple, radiatingly variegated with red near the umbones; with numerous subequal scarcely elevated ribs, that are armed with crowded unequal short strong spines. 2. *W. Indies?*

*S. CRASSISQUAMA.* *Lam.* 12.—*Chenu, Il. C. Spond.* t. 11, *f.* 3.—*S. PICTORUM, Sow.* (as of *Ch.* 7, t. 69, *f.* E) *Th.* 1, *p.* 422, partly, t. 86, *f.* 28. Large, solid, of an uniform orange or scarlet hue; rayed with extremely numerous ribs and costellæ, none of which are peculiarly elevated, but all thickly crowded with strong scaly spines, the costellæ being similarly armed with the broader ribs. 5. '*China*;' '*W. Columbia*.'

*S. SPATHULIFERUS.* *Lam.* 13 (not *synonyms*).—*Chenu, Il. C. Spond.* t. 8, *f.* 1 to 4.—*Sow. Th.* 1, *p.* 421, *Spond.* *f.* 26, 61.—(*Kn.* 6, t. 9, *f.* 1?) Ranging in tint from saffron to crimson, seldom variegated, except at the beaks, which are usually white with blotches of the ground-colour; ribs depressed, differing little in size, about 6 or 7 of the broader of them (separated widely by about 4 or 5 costellæ) armed with large and rather distant elongated spathulate laminæ, which, when finely developed, are somewhat disposed to foliation at their apices. Interstitial costellæ rough with squamular spines; the surface elsewhere crowded with extremely small and minutely squamiferous radiating elevated striæ. *Var.* The laminæ yellow or white. 2½. *W. Indies.* The *S. VIOLASCENS* of *Lamarck* (No. 21) is referred by *Sowerby* to this shell.

*S. DUCALIS.* *Ch.* 7, *f.* 477, 8.—*Lam.* 14.—*E.* t. 191, *f.* 6.—*Chenu, Il. C. Spond.* t. 8, *f.* 3.—*Sow. Th.* 1, *p.* 426, t. 85, *f.* 16. Solid, white, closely lineated with smoky chocolate colour between the ribs; rayed with tolerably numerous and moderately elevated broad costæ, that are closely set with more or less flexuous white laminæ, which are usually more or less erect, and are generally broadest at their apices;

<sup>1</sup> The *S. IMPERIALIS*, *Chenu, Il. Con. Sp.* t. 26, *f.* 2.—*Sow. Th.* 1, *p.* 424, t. 88, *f.* 43, 4, only differs from *REGIUS* in being more depressed, having its principal spines less erect, and in exhibiting only 3 interstitial costellæ bristling with upcurved spinelets: ribs white, ground-colour brownish pink. 3. *China.*

about three interstitial elevated striæ. *Var.?* S. SPATAGOIDES, *Ch. 7, p. 67, f. 474, 5.*—(*Kn. 6, t. 9, f. 2.*)—S. CROCEUS, *E. t. 191, f. 4?*—S. DUCALIS, *Chenu, Il. C. Spon. t. 8, f. 2.* Purplish brown with elongated and rather distant white laminæ; the lineation only commencing at the margin. 3. *Philippines.* The lineated style of painting, rather than the sculpture, appears to be the permanent characteristic, for the laminæ, in some individuals, become almost obsolete.

S. MICROLEPOS. *Sow. (as of Lam. 16) Th. 1, p. 422, t. 88, f. 46.* Small, scarlet, not variegated, armed with radiating costellæ and several intervening minutely imbricated raised striæ; the half dozen principal riblets notched by imbricated rudimentary scales, which near the margin become strap-shaped and truncated. 1½. *China.* Lamarck's species, for which Knorr, vi. t. 12, f. 3, was doubtfully cited, is ill-defined.

S. CROCEUS. *Ch. 7, p. 77, t. 45, f. 463.*—*Lam. 17.*—*Sow. Th. 1, p. 419, t. 87, f. 31.*—(*Seba, t. 88, f. 1.*) Small, solid, of an uniform reddish orange; the 4 or 5 principal ribs armed with a few distant strong simple spines; their intervals roughened by more or less squamiferous raised radiating striæ. 2. *W. Indies.*

S. AURANTIUS.—S. GÆDEROPUS, &c. *Ch. 7, p. 79, f. 466, 7.*—S. A. *Lam. 18.*—*E. t. 191, f. 3.*—*Sow. G.—Reeve, C. S. t. 118.*—*Chenu, Il. C. Spon. t. 23, f. 2, 3, 4.*—*Sow. Th. 1, p. 428, Spon. f. 1, 2, 55.* Of an uniform orange, or with the spines and margin of that hue, and the ground white with chocolate-coloured spots near the beaks: rayed with numerous narrow little elevated ribs (none peculiarly prominent), that are armed with elongated moderately distant spines: interstices smooth, slightly concave, not sculptured. 4. *Sechelle Islands.* The S. ALBUS of Chenu (*Con. Il. Sp. t. 28, f. 5*) may possibly prove a colourless variety.

S. RADIANUS. *Lam. 19.*—*Chenu, Il. C. Spon. t. 28, f. 2, 3, 4.*—S. NICOBARICUS, *Sow. (as of Ch. 7, f. 469, 70) Th. 1, p. 428, t. 88, f. 48.* Small, white, with radiating rows of blackish chocolate-coloured spots; surface bristling with most numerous radiating rows of very delicate crowded spatulate spines (or elongated concave scales), which are not seated upon ribs, but upon slightly elevated striæ. *Var.* Spots scarlet with dark centres: striæ further apart and armed with most slender lamellar spines: interstices delicately shagreened. 1½. *Philippines.* Not improbably the young of the next species.

S. ZONALIS. *Sow. (as of Lam. 20) Th. 1, p. 429, Spon. f. 12, 18, 27, 60.* Usually white, with chocolate-coloured spots near the beaks, and the laminæ of a lilac colour: rayed with extremely numerous ribs, which are depressed, of nearly equal breadth (those towards the centre being rather the larger), and most thickly set

with elongated tapering subspathulate laminæ that are generally more or less curved: interstices devoid of sculpture. *Var.* The ribs alternately larger and smaller. *Var.* Ground-colour blackish purple, laminæ orange and reddish purple. 3½. *Mauritius*. *There are no indications of larger costæ at the beaks.*

S. MARIS-RUBRI, *Bolten*, for S. ACULEATUS, &c. *Ch.* 7, p. 74, f. 460, 468.—S. A. *Sow. Th.* 1, p. 419, t. 85, f. 11, 13.—S. DENTATUS, *Chenu*, *Il. C. Spon.* t. 25, f. 1. Ribs very numerous, rather broad, of nearly equal size, armed with crowded more or less flattened white or yellow spinous laminæ; interstices usually of a purplish red, rendered scabrous by crowded radiating lines of squamular spines. 4. *Mauritius*.

S. NUDUS. *Ch.* 11, p. 235, f. 1989, 0.—*Reeve*, *C. S.* t. 119, f. 10.—*Chenu*, *Il. C. Spon.* t. 24, f. 6.—*Sow. Th.* 1, p. 480, t. 88, f. 39, 40.—S. ANACANTHUS, *Mawe*, t. 11, f. 3. Small, devoid of ribs, costellæ or laminæ; colour scarlet and white, arranged in lines, so that either some of the subgranular raised striæ which closely cover the surface are white upon a brilliantly red ground, or are intensely red upon a partially white ground. *Var.* A few of the striæ with small obsolete scaly tubercles. 1½. *Red Sea*; *Philippines*.

S. VARIANS. *Sow. Ap. Stutch.*—*Sow. Th.* 1, p. 426, t. 86, f. 21, 2.—S. DELESSERTIANUS and S. OBLIQUUS, *Chenu*, *Il. C. Spon.* t. 12, and t. 24, f. 5. Ponderous, very large, oval, white, red at the umbones, profusely covered with rather flattened and depressed elongated spatulæ; hinge-area usually produced, and banded with brown; lower valve generally attached by nearly its whole surface, inside often with water enclosed between the lamellæ in aged examples. *Young*. Smooth, triangular, orange or purple, with 5 or 6 beaded ribs, and a very elongated hinge-area. 12. *South Seas*.

S. LEUCOCANTHA. *Brod. Z. P.* 1833.—*Sow. Th.* 1, p. 423, t. 87, f. 35, 6. Of a whitish or pinkish flesh-colour, at most only obsoletely ribbed, radiated with extremely numerous rows of strong curved flattened and rather produced scales, which are white at their sub-truncated apices, and pink at their commencement; the larger of them are broad-based in the more characteristic examples. *Var.* Of an uniform purplish red, except at the beaks, which are devoid of colour. 4. *W. Columbia*. *There are generally 6 principal ribs, between each of which stand 3 rows of scales, some of which are pointed at the ends.*

S. PRINCEPS. *Brod. Z. P.* 1833.—*Reeve*, *C. S.* t. 116, f. 2.—S. PICTORUM, *Sow.* (as of *Ch.*) *Th.* 1, p. 422, t. 88, f. 45. Of an uniform colour that ranges from reddish to purplish crimson; rayed with numerous depressed ribs, none peculiarly prominent, but mostly well defined and alternately larger and smaller. Ribs armed with moderately close-set elongated spathuliferous laminæ, which, in typical

examples, are, on the principal rows, slightly broader at their termination, and disposed to foliation: interstices minutely shagreened. *Var.* The laminæ orange. *Var.* The laminæ short and frondose. 5. *W. Columbia.* A kind of black lineated spotting, which, in certain individuals, flanks the downward course of the ribs, is generally perceptible at their commencement.

*S. CILIATUS.* *Sow. Th.* 1, p. 429 (for *S. ACULEATUS*, *Brod. Z. P.* 1833), t. 89, f. 52. Small, very delicate and fragile; white, with a very few small blackish chocolate-coloured speckless adjacent to the beaks, whence diverge numerous moderately distant raised striæ, that are armed with excessively slender and elongated lamellar curved spines. 1½. *Lord Hood's I.* Evidently immature; possibly the young of *AURANTIUS*.

*S. TENUISPINOSUS.* *Sow. Th.* 1, p. 421, t. 87, f. 37. Small, white, more or less tinged with orange, and speckled with crimson at the beaks; surface everywhere scabrous, crowded with radiating costellæ, which are thickly set with peculiarly elongated slender spines and spinous spatulæ. 1½. *Philippines.* Very closely allied to *LONGITUDINALIS*, but with a more delicate aculeation.

*S. LIMBATUS.* *Sow. Z. P.* 1847; *Th.* 1, p. 427, t. 88, f. 51. Large, solid, ranging from orange to purplish crimson in the same specimen; radiated with numerous little elevated ribs, none of which are preeminently (or at regular intervals) of peculiar magnitude: ribs closely foliated with tolerably equal rows of broad scales; interstices shagreened; inner margin purple. 4. *Persian Gulf.*

*S. CUMINGII.* *Sow. Th.* 1, p. 425, t. 89, f. 62. Of an uniform purplish red; with about 6 rather distant and not much elevated ribs, which are foliated with extremely thin and flat flexuous laminæ, whose edges are so curled as to resemble the common *Fucus (Digitatus)* of our shores. These are broader at their apices than at their bases, and those near the margin are remarkably elongated. The intervals between the ribs are filled with very numerous raised striæ (or delicately narrow costellæ), which are more or less echinated by most minute spines. 2½. *Java.* The beak of the only known specimen of this exquisitely beautiful shell (which is about 2 inches in length) does not vary in colouring from the prevailing hue.

*S. SINENSIS.* *Sow. Th.* 1, p. 427, t. 87, f. 82, 3. Small, uniformly pale, and of a yellowish pinkish or lurid flesh-colour; surface towards the beaks covered with very numerous raised squamiferous striæ, towards the margin with large more or less crowded laminæ, which are almost always broadest and rounded at their apices and very seldom are elongated or disposed to palmation. These laminæ, although arranged in radiating rows of rather unequal size, can scarcely be said to be seated upon ribs, the latter being so depressed

as almost to become obsolete in the more typical examples: interstices sculptured. 2½. *China*.

S. GUSSONI. *Costa, Tes. Sic.* p. 42.—*Phil.* 1, p. 87, t. 5, f. 16; 2, p. 63.—*Kust.* vii. 2, t. 6, f. 3, 4.—*Sow. Th.* 1, p. 430, t. 89, f. 54.—S. ALBIDUS, *Brod. Z. P.* 1836, p. 43.—S. MINIMUS, *Chenu, Il. C. Sp.* t. 24, f. 3. Small, wholly white both within and without, sub-ovate, more or less compressed at the sides dorsally, scarcely eared, merely radiated in both valves by very numerous narrow unarmed costellæ or coarse raised striæ: inner margin closely and strongly crenated. 4. *Mediterranean. The attached valve is usually gibbous.*

S. ASPERRIMUS. *Sow. Z. P.* 1847; *Th.* 1, p. 421, t. 87, f. 38. Colour (in the few specimens known) pinkish drab; entire surface most closely rayed with crowded costellæ and elevated striæ, that everywhere bristle with more or less elevated small spines. None of the costellæ are peculiarly prominent, but each, as it is permitted to develop itself, becomes squamiferous and finally aculeated. 4. *U.*

S. LINGUA-FELIS. *Sow. Z. P.* 1847; *Th.* 1, p. 420, t. 88, f. 50. Solid, of an uniform dull orange-red, crowded with most numerous (about 70) equal-sized radiating costellæ, which are armed with most thickly set short squamular spines; interstices narrow and smooth. 4. *U.*<sup>1</sup>

### TRIBE OSTRACEA.

*Ligament either internal or nearly so: shell irregular in form, foliaceous, or at times papyraceous.*

#### OSTREA.<sup>2</sup>

*Shell affixed, inequivalve, irregular; the beaks not touching, but rather diverging, the lower one often produced; upper valve the smaller, and in growth enlarging anteriorward; devoid of regular teeth, but usually provided with denticles on either side of the hinge; ligament semi-internal, its pit increasing with age.*

\* *Margin not in folds, but simple or waved.*

O. EDULIS. *Lin.* 1148.—*Lam.* 1.—*D.* p. 280.—*Turt. B.* p. 204.—*Mont.* p. 152.—*Sow. G.*—*Reeve*, t. 120, f. 1.—*List.* t. 193, f. 30.

<sup>1</sup> See, too, the S. CONTRARIUS and SPINULOSUS of Kuster (Ch. ix. f. 985, 6, and 988, 9, 90), the S. LAMARCKII, DIGITATUS, FRAGILIS and UNICOLOR of Sowerby's Monograph (Thes. Conch.), and the S. AMBIGUUS, EXCAVATUS, ROSTRATUS, GRACILIS, LIMA and ASIATICUS of Chenu's 'Illustrations.' The two last (Il. C. Sp. t. 24, f. 7, and t. 24, f. 1, 4) are new to me.

We have followed Deshayes in excluding the genus GRYPHÆA.

—*Da Cost.* t. 11, f. 6.—*Crouch*, t. 12, f. 8.—*Conc. Man.* f. 180.—*W.* t. 11, f. 74.—*Brit. Mol.*—*O. PARASITICA*, *Turt. Dic.* p. 184, f. 8; *Biv.* p. 205, t. 17, f. 6, 7. Obovate, inequivalve, rounded and somewhat dilated at the base, narrower at the apex, where, in the lower valve, there is a tendency to dilate and form a crest-like process at the sides; upper valve the less solid, very shallow, covered with numerous imbricated concentrically arranged loose flakes, which are pale ashy brown, undulated, yet scarcely raised; lower valve white, strong, not so shallow, armed with radiating ribs that are crossed by rather elevated distant concentric lamellæ, which are vandyked by the intersection of the ribs; edges somewhat wavy, yet not at all plicated, neither scabrous nor crenated, but marked, for the most part, in the vicinity of the hinge-margin, with more or less closely disposed linear denticles, which run parallel to it. 4. *Britain, &c.*—*Var.?* *O. E.?* *var. PURPUREA*, *Conch. Mis. O. f.* 8. Both valves purplish chocolate, not variegated, not thick; flakes of the upper valve glossy, undulated, very loose, not erect, those of the lower valve distant, very loose, curly, more or less elevated, here and there almost foliaceous; beaks acute; interior slightly tinged with external colouring; cartilage conical; cardinal denticles indistinct. *Tqulon, attached to a stake.*  
*O. HIPPOPUS.* *Lam.* 2.—*Desh. E.* 2, p. 288. Large, thick, round; upper valve flat; the concentric lamellæ very numerous and depressed. 5. *Boulogne.*<sup>1</sup>

*O. ADRIATICA.* *Lam.* 4.—*Phil. in Kust. Ch.* vii. 1, t. 13, f. 1, 2, 3.—*Mid. Mal. Ros.* 3, p. 6.—*O. TAURICA*, *Kryn. Bul. Nat. Mosc.* 20 (1837), t. 3, *teste Mid.* Subtriangular, peaked at the beaks, dilated below, compact, not thick, margin usually straight on one side, and

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<sup>1</sup> I have given a translation of Lamarck's description, but, judging from his specimen in the Museum, consider the shell to be merely a coarse variety of *EDULIS* with the cardinal denticulations distinct and the lamellæ of the upper valve obsolete. *M. Deshayes* has given the following more detailed account of the species:—"Rounded-oval, thick but light, irregular, both valves covered with concentric lamellæ, which scarcely project, and are furnished with many folds, especially towards the margin: lower valve larger, thicker, more tumid, and provided with longitudinal ribs, that are traversed by concentric scaly lamellæ: inside quite white, having slight bump-like elevations or undulations: scar semilunar, larger in proportion than in *EDULIS*, more laterally situated: beaks always broad and produced, that of the lower valve deeply hollowed by a moderately sized canal, which is margined on each side by a decurrent varix-like projection, that of the upper valve flatter, with both varices and canal nearly obsolete."

arched at the other. Upper valve the smaller, flattish; its lamellæ close-set, yellowish chocolate-coloured. Lower valve moderately hollowed, dirty purple; its distant lamellæ arranged in rather numerous radiating ribs. Inside wholly white, except at the margin, which partakes of the external colouring. Denticles on one or both sides of the cartilage: inner edge elsewhere simple. 2. *Adriatic; Black Sea.*

O. COCHLEAR. *Poli*, 2, t. 28, f. 28.—*Lam.* 5.—*Phil.* 1, p. 89. From oval to suborbicular, very thin, scarcely, if at all, lamellated, more or less tinged with rose-colour, glabrous; upper valve concave externally; lower valve deeper and larger, sometimes with more or less obsolete radiating ribs: inside whitish, its disk often stained with rufous-purple, edges simple, a few cardinal denticles near the apex; scars placed nearer to the apex than to the rounded base. 2½. *Mediterranean.*

O. CRISTATA. *Born*, t. 7, f. 3.—*Poli*, t. 28, f. 26, 7.—*Phil.* 1, p. 88; 2, p. 63.—O. C. VAR. C. *Lam.* 6. Ovate or orbicular, thin, expanded: upper valve much the smaller, shallow, white, beneath the concentric rows of dirty yellow imbricated flattened membranaceous lamellæ; lower valve rather profound, usually attached at the apex alone, whitish tinged with orange or pink, sometimes rayed with crimson lines, its lamellæ strong, distant, curly, and moderately elevated, its folds arranged in radiating rows: inside silvery white, having distinct denticles near the incurved and pointed beaks; scar moderate and reniform; cartilage conical.—*Var.* O. DEPRESSA, *Phil.* 1, p. 89, t. 6, f. 3. Attached by the entire surface; concentric flakes few and distant; a few rosy rays. 3. *Mediterranean.* The specimens of Lamarck's CRISTATA in the Museum at Paris appear distinct, and of more than one species. The O. EXALBIDA of Gmelin is founded on Knorr, 5, t. 14, f. 4, which is apparently designed for a young example of this shell.

O. GALLINA. *Lam.* 7.—*Del.* t. 18, f. 1. Obliquely ovate; small, rounded on one side, subreniform, whitish, glabrous: upper valve decidedly smaller, slightly convex: lamellæ quite obsolete.—*Var.* Lower valve rayed with violet-coloured narrow ribs. *Atlantic?* The figure of Delessert much resembles (except in colouring) one of the many varieties of O. RHIZOPHORE. It represents the interior as pure white, and exhibits no indications of ribs or lamellæ on either valve.<sup>1</sup>

O. LINGUA. *Lam.* 9. Thin, somewhat foliaceous, ovate-oblong,

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<sup>1</sup> O. NUMISMA, *Lam.* 8, having been founded on a single wretched specimen in the Museum which is destitute of any decided characteristics, should be expunged from our catalogues.



subtruncated at the apex, violet-brown; the lamellæ so arranged as to form indistinct radiating sulci. 1½. *Timor*. The umbones are stated to be smooth and white; but the solitary type (evidently immature) is too rubbed for this to be regarded as a characteristic.

O. TULIPA. Lam. 10. Oval-oblong, rather thin, tortuous, violet; upper valve not flat, with somewhat scabrous longitudinal sulci: lower valve rayed with white and red: inside white. 2. *Hab?* "Probably a variety of MYTILOIDES" (Desh.). The type reminds me of certain specimens of RHIZOPHORE.<sup>1</sup>

O. SCABRA. Lam. 12. Oblong, spatulate, thin, subpellucid, whitish, armed with longitudinal prickly striæ. 2. *America*. The type in the French Museum is referred to the genus PLACUANOMIA of Broderip. I unfortunately neglected to examine the specimen.

O. ROSTRALIS. Lam. 13. Oblong, thin, imbricated by loose lamellæ, tawny-grey tinged with violet, sharp at the beaks, which are white, small, subequal, approximate, inclined to the left; posterior depression gaping. 1½. *America*. Valves of nearly equal length.

O. PARASITICA (in part). Gmel. 3336.—Lam. (in part) 14.—Desh. in E. 2, p. 295.—O. ARBOREA, Ch. f. 881?—D. p. 279.—W. t. 11, f. 71?—O. RHIZOPHORE, Guilding, Z. J. 8, p. 542.—Conch. Mis. O. t. 1, f. 1, 4. Ranging from ovate to elongated oblong, thin, glabrous, parasitical, generally broader and more or less rounded at the base; upper valve more or less depressed, covered (when perfect) with thinly-spread, very flat and not at all curly imbricated flakes, which are either variegated with radiating purplish brown lines or markings on a ground of yellowish white, or are chocolate-brown with a few whitish or yellowish rays: lower valve deeper and more ample, rayed with white and brownish or reddish purple, armed with a few distant radiating ribs that are adorned here and there with more or less obsolete elevated scales, often with a few loose concentric lamellæ: inside whitish, showing the external colouring towards the edges, which are neither lacinated nor denticulated: cartilage green, its cavity shallow. Up to 4. *W. Indies*, on the roots of the mangrove. Some individuals with a linguiform shape and a truncated base answer the description of O. LINGUA. The Honduras variety, of an uniform dirty purple, and with the ribs almost, if not wholly, obsolete, may prove identical with O. TULIPA.

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<sup>1</sup> O. BRASILIANA. Lam. 11. Thin, oval, dilated above, small, somewhat rayed with white on a fulvous ground: upper valve slightly convex: transverse striæ very fine. *Brazil*. The type (a small flat shell), surmised by Deshayes to be a variety of BOREALIS, is too young to exhibit the permanent characteristics.

**O. DENTICULATA.** *Born*, 113, *t.* 6, *f.* 9, 10 (*copied E. t.* 183, *f.* 3, 4).—*O. D. var. b*, *Lam.* 15. White, inequivalve, foliaceous; upper valve the smaller, convex, subovate, glabrous; lower valve flat (being attached by the entire surface), rounded, expanded: inner edge sharply toothed on both sides of the extremely broad and shining cartilage in one valve, with corresponding pits in the other; scar very large, somewhat reniform. 6. *China?* Judging from the figure, the attached valve, when permitted to develop itself, must, as in *EDULIS*, have distant foliaceous laminae, and not improbably radiating ribs; the free valve has either lost its lamella, or they are much appressed; 2 or 3 marginal granules are, likewise, depicted. The *O. DENTICULATA* of *Chemnitz* (*f.* 672, 3, *copied E. t.* 183, *f.* 1, 2, and *W. t.* 11, *f.* 73), and of *Deshayes* (*E. 2*, *p.* 289) are probably distinct.

**O. SPATHULATA.** *Lam.* 16.—*Del. t.* 17, *f.* 1. Oval, longitudinal, dark brown or violet-black, moderately strong. Valves of equal length; the upper one shallow, covered with numerous concentric rows of loose but flattened lamellae; the lower one moderately deep, with its lamellae scarcely observable, but marked with obtuse radiating folds that undulate the margins. Inside white, edged in the upper valve with the dark hue of the external lamellae, and sometimes in the lower with dark blue: cartilage-plate rather large: cardinal denticles large, prominent and extending nearly (if not quite) over the entire periphery. 5. *On mangrove branches, &c.*

**O. RUSCURIANA.** *Lam.* 17. Oblong-ovate, thick (particularly the lower valve), bag-shaped under the beak: inside whitish, blackish purple at the margin: plate of the dorsal margin straight. "*Near Algiers; often pierced by Lithodomus caudigerus.*" I do not know the species.

**O. VIRGINICA.** *Gmel.* 3336.—*Lam.* 18.—*D. p.* 277.—*Gould, Mas. p.* 137.—*List. t.* 201, *f.* 34; *t.* 202, *f.* 35.—*Fav. t.* 41, *f.* C, 2.—*E. t.* 179, *f.* 1 to 5.—*Sow. G.—Reeve, Sys. t.* 120, *f.* 2.—*W. t.* 11, *f.* 68.—*D. p.* 277. Elongated, narrow, nearly straight, very solid, not dilated and but little rounded at the base, sides more or less subparallel; valves rather shallow (the upper much depressed), dirty white, with concentric imbricated wrinkles (covered, when not worn, with crowded leaf-like scales of a dirty lead-colour): edges not waved, quite entire within; beaks pointed, greatly produced in the adult, not curved. Inside white, with the scar subcentral and usually tinged with violet; hinge as in the next species, with the successive removes of the cartilage indicated in the fossule by transverse wrinkles; callus of the upper valve extending back to the apex. 12. *Virginia; Mexico.*

**O. CANADENSIS.** *Lam.* 19.—*E. M. t.* 180, *f.* 1, 2, 3.—*Ch. f.* 677.—**O. BOREALIS,** *Gould, Mas. p.* 137.—*Young, O. BOREALIS, Lam. 3.*—

*O. ROSTRATA*, *Ch. f. 877*.—*W. t. 11, f. 87?* Elongated and narrow when adult, ovate-oblong when young, very solid; dilated and rounded at the base; slightly incurved towards the attenuated beaks (which are curved, and, especially the lower one, moderately produced) posteriorly, somewhat convex anteriorly; valves somewhat compressed (the upper the more so), covered with close-set imbricated flattened and not curly flakes, which are dirty white and usually mottled with smoke-colour; lower valve white, with more or less distinct coarse radiating folds, its ventral edge slightly waved. Inside white; scar obovate and violet; edge quite entire: hinge consisting of a prominent callus in one valve, fitting into a corresponding ditch-like cavity in the other; the ligament dark greenish. 12. *N. America*.

*O. EXCAVATA*. *Lam. 20*. Longitudinally ovate, thin, very pale violet; upper valve the narrower, plano-concave; lower valve the larger, very profound, imbricated with depressed lamellæ. 1½. *New Holland*.

*O. MYTILOIDES*. *Lam. 21*.—(*Rump. t. 46, f. O, copied in Klein, t. 8, f. 17*.) Elongated (in characteristic specimens mussel-shaped), strong, narrowed at the apex, subtruncated or but little rounded at the other extremity. Valves of equal length; the upper very convex, covered with flattened purplish black lamellæ; the lower usually, attached by its whole surface to the mangrove. Inside pure white; the cardinal denticles large, close, extending down both sides of the upper valve, and leaving their impress strongly marked upon the lower valve: cartilage-plate triangular, rather large. 4. *Zebu, Philippines*.

*O. SINUATA*. *Lam. 22*. Rounded-ovate, attenuated at the beaks, rather flattened, whitish: ventral margin obtusely waved, posterior side with 3 sinuses: upper valve not flat. *Australia*. "*Slightly resembling EDULIS*."<sup>1</sup>

*O. TRAPEZINA*. *Lam. 23*. Transversely ovate, distorted, sub-trapeziform, undulatingly gibbous, whitish; dorsal edges straightish, toothed internally: hinge small and marginal. 1½. *New Holland*.

*O. RUFA*. *Lam. 25*.—*Del. t. 18, f. 2*. Longitudinal, strong, tapering towards the beaks, dilated towards the ventral margin, inequivalve. Upper valve shallow, rufous, with irregular depressed concentric lamellæ: lower valve more or less profound, rufous within, excavated beneath the beak, which is greatly produced. Inside of

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<sup>1</sup> An examination of the type at the French Museum proves that the characters upon which this species has been founded are purely accidental; the name ought, consequently, no longer to be retained in our catalogues, the shell being practically undefined.

the upper valve usually white, margined by the dark external lamellæ. Cartilage-plate very large, the adjacent margins denticulated: scar ample. 3½. "*America*."<sup>1</sup> *The bumps so often found upon this species result from its habitat.*

O. MARGARITACEA. Lam. 26.—*E. t.* 181, *f.* 1, 2, 3.—*Bl. t.* 59, *f.* 5.—*Desh. E.* 2, *p.* 295. Ovate-acute, thick, recurved, beaked and bag-shaped, white, clouded with rose or purple. Upper valve flat, somewhat lamellated, the lamellæ depressed, the surface beneath them pearly. Beak nearly flat, cartilage-canal scarcely concave. 4½. *S. America?* "*Resembles CORNUOPIA, but is not at all plicated.*"

O. GIBBOSA. Lam. 27.—*E. t.* 182, *f.* 3, 4, 5. Ovate-oblong, distorted, gibbous near the beaks, tinged with violet, lamellated: lower valve bag-shaped: inner margin denticulated. 2½. *Hab.?*

O. ELLIPTICA. Lam. 29.—*Del. t.* 17, *f.* 2.—*Ch.* 8, *f.* 661 (*well*). Oval or oboval, thin, subequivalve, more or less compressed, never beaked, nearly equally broad at each extremity, white tinged with purple, rayed with darker lines. Surface of the upper valve glabrous, not lamellar. Ventral margin more or less arched: edges not much indented. Inside silvery white, sometimes iridescent; the upper valve with a few granules, which at times are nearly obsolete, near the cartilage, whose receptacle is wide but short. 2½. *Hab.?*<sup>2</sup>

O. ANGULATA. *W. S. t.* 2, *f.* 8.—*Conch. Mis. O.* *f.* 10, 11.—*GRYPHEA ANGULATA*, Lam.—*Del. t.* 20, *f.* 3.—*Crouch, t.* 12, *f.* 7. Oval, arcuated at the base, tolerably strong, very inequivalve; the beaks greatly incurved and subspiral. Upper valve shallow, dirty white, with a few radiating linear purplish markings, with close-set imbricated membranaceous concentric flakes, which are not at all curly, but greatly depressed; lower valve profound, usually affixed at

<sup>1</sup> According to the tablets at the French Museum, it forms but one species with TUBERCULATA and AUSTRALIS.

O. TUBERCULATA. Lam. 24.—*Ann. du Mus.* 4, *t.* 67, *f.* 2. Ovate wedge-shaped, whitish, slightly tinged with violet. Upper valve flattish; lower valve bag-shaped, beaked, armed with depressed semiglobose bubble-like tubercles, which are ragged at the margin. *Timor.*

O. AUSTRALIS. Lam. 28. Ovate, lamellar, not folded, dilated at the ventral margin, retuse, violet, especially within; lower valve bag-shaped: inner edge denticulated. 2½. *New Holland.*

<sup>2</sup> O. HALIOTOIDEA (Lam. 30), O. DEFORMIS (Lam. 31) and O. FUCORUM (Lam. 32) must be expunged; the characteristics of the first being accidental, not essential, and the two last being merely the fry of some larger species.

the umbones only, rayed with about 6 or 7 angulated ribs, pale rufous. Edges slightly wavy, but not plicated, neither scabrous nor denticulated internally. Inside whitish, often mottled with dirty purple.

5. *Tagus, Portugal.*

O. ECHINATA. *Quoy and Gaym. Astr.* 3, p. 455, t. 76, f. 13, 4.—O. SPINOSA, *Desh. ed. Lam.* 7, p. 237. Obovate or suborbicular, small, inequivalve, tolerably strong: upper valve shallow but convex, purplish black, with usually two whitish radiating streaks, armed with numerous irregularly disposed and moderately large perpendicular tubular spines: lower valve more capacious: inside dirty white, with usually a dark brown disk in the upper valve: hinge with adjacent cardinal denticles: beaks not projecting. VAR. No distinct rays; the spines purplish black on a paler ground. *Philippines and Amboyna.* The only examples known to me are attached by the entire surface, but the lower valve is stated to be reddish, and adorned with a few spines.<sup>1</sup>

O. STELLATA. *Gmel.* 3337.—*Schröt. Ein.* 3, p. 377, t. 9, f. 7.—Copied as O. CRISTATA, *W.* t. 11, f. 65. Very inequivalve, rather thin, sometimes suborbicular, sometimes elongated-ovate, almost always attached by the umbones, of lighter or darker shades of purple. Upper valve the smaller, nearly flat, or even concave externally, somewhat lamellar, the flakes depressed, in the younger specimens armed with more or less numerous tubular or semitubular spines that converge to the centre of the valve: lower valve profound, its lamellæ distant and raised into projecting scales where they traverse the few obtuse and radiating ribs, which gives the margin (in perfect specimens) a beautifully foliated appearance: beaks acute. Inside whitish, usually stained in the middle of the upper valve with brown; a few rather indistinct cardinal denticles: cartilage conical, 1. *Guinea (fide Schröter).*

O. PRISMATICA. *Gray, Ann. Phil.* 1825.—? O. IRIDESCENS, *Gray, Con. Mis. Os. f.* 6, 7. Longitudinally ovate or obovate, very solid; valves rather, and nearly equally, shallow; upper valve, when fresh, covered with extremely close-set imbricated uncurled flakes of an ash-brown colour, under which the surface is smooth subnacreous

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<sup>1</sup> Mr. Cuming has taken, in the Philippines, some specimens, which may possibly prove aberrant forms of this species. They are of an orbicular shape, with thinly spread absolutely flat purplish flakes, adorned by two ill-defined yellowish white rays. The young are sprinkled with a few tubular spines (visible upon the umbones of the more adult examples), but these are entirely obsolete in aged individuals, which closely resemble *CALLICHOA*.

white: lower valve attached by its entire surface, usually spreading at the sides near the hinge: edges simple, not wavy, very coarsely toothed internally towards the apex: inside of a rich purple-lake, or whitish, tinged with that colour in parts, and somewhat iridescent: scar subreniform: cartilage-cavity large. 6. *Guacomayo, Cent. America.*

O. LAMELLOSA. *Phil (as of BROCCHI)* 1, p. 88; 2, p. 63. *Elongated and beaked var.* O. CYRNUH, *Payr. Cat. Cors.* 79, t. 3, f. 1, 2.—*Desh. ed. Lam.* 7, p. 236. Ovate or obovate, usually elongated, longitudinal, thick, but light (the structure not being compact): valves almost equal, moderately convex; the upper one covered with large membranaceous lamellæ, which are ochraceous or pale olive at their commencement, flattened (at times slightly undulated), chocolate-coloured, and free at their extremities: lower valve often very thick or else solid, rarely presenting sculpture or colouring, sometimes stained with orange or with linear violet rays, still more rarely exhibiting numerous obsolete radiating costellæ: beaks more or less prominent: inside greenish white, at times tinged here and there with pink or flesh-colour, denticulated near the hinge and edged with a yellowish olive border of the external flakes: scar moderate. 5. *Mediterranean.* In specimens from Lake Fusaro the laminae of growth are so loose that the shell almost appears in a state of disintegration.

O. UNCINATA. *Desh. Exp. Sc. Mor.* 126, t. 18, f. 9, 10, 11. Very like LAMELLOSA, but more solid, and, from the distinct and crowded radiating plications of the compact lower valve, having that margin regularly closely yet not angularly folded, which produces similar indentations in the flaky margin of the upper valve. 3. *Greece, Smyrna.* Possibly a variety of LAMELLOSA. The upper valve is of a pale olive, mottled with chocolate-brown; the lower is dirty white. The shape varies infinitely; one of the individuals now before me exactly resembles Deshayes's figure, being longitudinally ovate and having its beaks greatly incurved; another is transversely trapeziform, and strongly reminds one of the types of TRAPEZINA in the Museum at Paris.<sup>1</sup>

O. RARICOSTA. *Desh. E.* 2, p. 299. Elongated, narrow, much

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<sup>1</sup> O. STENTINA of Payraudeau (*Payr. Cat.* p. 81, t. 3, f. 3.—*Desh. ed. Lam.* 7, p. 236) appears from its figure to approximate closely to this species. I subjoin its description:—"Oblong, flattened, ashy-white; lamellæ imbricated and undulated; upper valve flat or slightly convex; margin strongly denticulated; inside white. *Mediterranean.*"

attenuated at the summit, which is produced in a long, narrow and pointed beak, white, becoming clouded with violet towards the ventral edge. Upper valve flat, not ribbed, lamellated by very close-set imbricated concentric flakes. Lower valve the larger, profound, thin, its cavity slightly extending beneath the hinge-margin, with 6 or 7 narrow simple radiating ribs (the two central the coarser), which render the margin (which is neither crenated nor toothed) jagged. Inside pearly white; scar longitudinally oval-oblong, superficial, not coloured. *Hab.*?  $3\frac{1}{2}$ ... $1\frac{1}{2}$ . *I have not been able to meet with this species, whose described features approach very closely those found in certain specimens of PARASITICA.*

*O. SENEGALENSIS.* *Gmel.* 3337, for *ROJEL*, *Adans.* p. 202, t. 14, f. 5.—*D. p.* 279.—*W. t.* 11, f. 72.—*Desh. ed. Lam.* 7, p. 237. Rounded, flattened, affixed by the entire surface, tolerably smooth, of a deep reddish brown; lower valve flat, upper slightly convex: umbones minute, scarcely projecting: inside dirty white, hinge-margin with granules on either side. 2. *Senegal.*

*O. ORIENTALIS.* *D. p.* 274, for *Ch. f.* 660 (termed *O. BILINEATA* by *Bolten*, and copied as *O. RADIATA*, *E. t.* 184, f. 4), from which *W. t.* 11, f. 61. Parasitical, ovate or orbicular. Upper valve coarse, convex, yellowish brown with black rays, or black and rayed with yellowish brown: lower valve flat and white. 2. *E. Indies.* *Is apparently attached by the entire surface.*

*O. ROSACEA.*—*O. PARASITICA*, *Ch. f.* 997.—*O. PLICATULA*, *var. C.* *Lam.*—*O. R.*, *Desh. ed. Lam.* 7, p. 236. Extremely variable in shape, tolerably strong, rose-coloured, with one or two more or less distinct smoke-coloured rays; surface glabrous, devoid of distinct lamellæ, usually more or less tubercular. Valves of equal size; the upper one rather shallow, its entire periphery more or less dotted inside with minute granules: the lower (if not attached by the entire surface) plicated, and rather profound. Inside white, or greenish white; scar moderate, reniform; cartilage-plate small. 2. *China?* *Senegal?* *VAR.? from L. Hood's Island.* Both valves nearly flat, pale olive, mottled here and there with pink or rose-colour; surface not tubercular, but very slightly scaly, there being somewhat indistinct concentric flattened lamellæ.

*O. CHEMNITZII.* *Hant. Z. P.* 1845.—(*Ch. f.* 994.) Oboval, generally sinistral, solid, greatly compressed: lower valve attached by its entire surface: upper valve ranging in tint from dirty yellow to dull reddish purple, having a peculiar gum-like glossiness, somewhat tuberculated, assuming a blistered appearance, not distinctly lamellated. Beaks incurved. Margin of the upper valve obsoletely, of the lower decidedly plicated. Inside tinged with green, the margin roughened by small grains in one or the other valve: scar rather

large, and subreniform. 3. *China*. *The apices are not much attenuated.*

O. LACERANS. *Hanl. Z. P.* 1845. Longitudinal, elongated, narrow at the acute beaks, and forming more or less numerous claw-like projections at the base and sides, not at all lamellated, moderately strong, very inequivalve. Upper valve nearly smooth, flat, either yellowish with dull crimson irregular rays, or of the latter colour with two central radiating streaks enclosing usually a narrow space of yellowish white: lower valve profound, whitish, or pale orange, with a few broad radiating streaks of blackish purple, and armed with a few distant subangular longitudinal ribs. Inside of an uniform silvery white; no cardinal denticulations; cartilage conical. 2. *Senegal?* *Not unlike PARASITICA, but distinguishable by its claw-like projections; never attached by the entire surface.*

O. COLUMBIENSIS. *Hanl. Z. P.* 1845. Ranging in shape from suborbicular to oblong, not solid, rayed with purple on a white ground. Valves of equal length, but the shelly substance of the upper one fits into the lower, and is only continued by the lamellæ to the margin, which, when permitted by its habitat to expand, branches into wavy foliations: edge of the lower valve (which is not so shallow, and is usually attached by its entire surface) elevated. Inside whitish, somewhat nacreous; no cardinal denticles: scar reniform, moderate. 2. *W. Columbia.*

O. BICOLOR. *Hanl. Z. P.* 1845; *Conch. Mis. Os. f.* 2. Obovate, never elongated, rather thin or moderately strong, somewhat compressed, inclined to expand laterally, scarcely lamellated, brownish purple with one or two broad white rays: margin simple, sometimes undulated by the substances to which it adheres: beaks rather pointed: inside white, edged in the upper valve by the external colouring; no cardinal denticles. 2½. *Senegal?* *Attached by its entire surface to the bottom of a ship. The lamellæ, when present, are flattened.*

O. MULTISTRIATA. *Hanl. Z. P.* 1845; *Conch. Mis. O. f.* 3. Suborbicular, compressed, of a rich rufous-brown, not solid, the valves of equal size: the lamellæ so depressed as to be scarcely manifest, crowded with minute radiating wrinkles, the nacre under the lamellæ stained with rufous. Inside snowy white, edged with purple in the upper valve, and stained in the lower with brilliant dark red in the central disc: scar rather large: beaks not prominent: cardinal denticles strong. 3½. *On a ship's bottom from Africa.*

O. CALLICHOA. *Hanl. Z. P.* 1845. Obovate or suborbicular, moderately strong. Valves nearly equal; upper valve shallow, rayed with purple and yellowish white, covered with depressed concentric lamellæ; lower valve moderately convex, more or less tinged with



purple, armed with numerous radiating rather obtuse ribs. Inside white, with a flaky border of the external colouring in the upper valve: cardinal denticles distinct: edges simple. 2½. *Chili*. It has the general aspect of *EDULIS*.

O. WEBBII. Récluz, *Journ. Conch.* ii. p. 256, t. 8, f. 1, 2. Rounded-oval (often truncated on one side, and bluntly subangulated on the other), whitish; lower valve the larger, very deep, vaulted beneath the beak; upper valve flattened, a little convex in front, encircled with distant thin short obliquely inclined simple lamellæ: beaks truncated. 1½. *W. Indies*. The shape is of course variable, but is never peaked, apparently, at the beaks.

\*\* Margin with distinct folds.

O. CUCULLATA. Born, t. 6, f. 11, 12.—*Lam.* 34.—*E.* t. 182, f. 1, 2.—*Fav.* t. 45, f. E.—*D.* p. 277.—*Desh. in E. M.* 2, p. 276. Very inequivalve, very solid, stained with purplish black on a white ground (wherever not eroded), with more or less obtusely angulated large radiating folds, that are often almost obsolete in the flattened and rounded upper valve, and are roughened by concentric scales in the lower valve, which is profound, and (in the adult) deeply excavated beneath the much produced beaks: inside white, not at all pearly: hinge-margin broad, the adjacent edges more or less denticulated, the more remote margin usually sprinkled with a few scattered granules. 2. *Philippines, &c.*<sup>1</sup>

<sup>1</sup> I am unable to discover any permanent distinguishing characters in the "O. CORNUCOPIA. *Lam.* 33.—*Fav.* t. 45, E.—*E.* t. 181, f. 4, 5.—*Ch.* f. 679.—*W.* t. 11, f. 69. Ovate-wedge-shaped, rounded at the apex, plicated beneath and at the margin: lower valve cucullate. Larger than CUCULLATA, its lower valve more expanded, and its edge not denticulated below."

It is almost impossible to define the limits of this widely extended species, which evidently varies according to its habitat. I possess a group of young individuals armed with tubular spines, and hence scarcely distinguishable from *STELLATA* or *SPINOSA*. Another extreme variety from the Philippines demands a separate description. The lower valve, which is not ill represented in Knorr (5, t. 14, f. 4), was attached to dead shells at the apex solely:

O CUCULLATA, var. TEREBRATULIFORMIS. Small, solid, the upper valve moderately convex, purplish grey, with crowded depressed concentric lamellæ which indicate by their arrangement some obsolete radiating ribs: lower valve pale purple, the radiating ribs numerous, nearly smooth, rounded (not angular): cardinal denticles extending nearly around the entire margin: beaks inclined.

*O. DORIDELLA.* *Lam.* 35.—*E. t.* 188, *f.* 4, 5. Oblong, parasitical, whitish, with about 4 good-sized plaits on each side: back flattened and glabrous. 1½. *Sumatra.*

*O. FRONS.*—(*Arg. t.* 19, *f.* D.)—*MYTILUS* F., *Lin. Syst. p.* 1155.—*Born*, 123, *vignette at p.* 121, *f.* b.—*D. p.* 301.—*W. t.* 12, *f.* 3.—*O. F.*, *Ch. f.* 686.—*Hantl. Conch. Mis. O. f.* 5.—*O. RUBELLA*, *LIMACELLA* and *ERUCELLA*, *Lam.* 36, 37, 38.—*O. FOLIUM*, *Reeve, Sys. t.* 121, *f.* 8.—*O. R.*, *Cuvier, R. An. edit. Audouin, t.* 72, *f.* 2. Very variable in shape, being sometimes oboval, sometimes elongated oblong or subfusiform, more or less solid, ranging in colour from purplish red to orange-yellow, adorned with radiating rib-like folds, that usually diverge, in the upper valve, from a more or less central dorsal rib, and in the lower valve from a corresponding hollow (caused by the GORGONIA, a stalk to which the shell has adhered by its hook-like processes of attachment): folds not imbricated or armed, usually numerous, sometimes subangulated, sometimes obtuse, and generally stronger in the lower valve. Inside of a paler or richer yellow; inner margin of the upper valve rough with elevated granules: scar moderate, lateral, more or less reniform. 2. *W. Indies. The O. EQUESTRIS of Say (Ann. Con. t. 58) may prove the young of this species.*

*O. FOLIUM.* *Lin. Mus. Ultr. p.* 534.—*Ch. f.* 665, 6.—*E. t.* 184, *f.* 13, 4.—*D. p.* 274.—*W. t.* 11, *f.* 62.—(*Knorr*, 1, *t.* 23, *f.* 2.—*Rump. t.* 47, *f.* A.—*Klein (copied) t.* 8, *f.* 22.) Oval, rather thin, purplish brown, attached to a stick, which causes the upper valve to present a more or less central elevated space corresponding with the cavity in the lower valve; sides obtusely and obliquely plaited; surface not lamellated: the edge not plicated, but simple: inside whitish or displaying the external coating, subnacreous: margins not scabrous, usually with a few granules near the cartilage. 2½. *Indian Seas? I think that this species has been confused with many others, and consequently have restricted the name to the shell described in the Museum of Queen Ulrica.*

*O. LABRELLA.* *Lam.* 40. Small, whitish, obliquely ovate, thin, pellucid, broader at the base; with a single row of oblique plaits; upper valve with prickly scales. ½. *China and Japan. The type in the French Museum reminds me of a young FOLIUM armed with incipient spiny tubercles, as in HYOTIS.*

*O. PLICATA.* *Ch. 8, p.* 34, *f.* 674, and *Var. f.* 680.—*D. p.* 275.—*Lam.* 41 (in part).—*E. t.* 184, *f.* 9.—*W. t.* 11, *f.* 63.—(*Gualt. t.* 104, *f.* A.) Very variable in shape, more or less longitudinally obovate, peculiarly light and lamellar in structure, upper valve generally the more convex, usually ashy with a purple tinge, purplish or rich rufous (often radiated with lines of a deeper colour), with numerous

more or less obtuse rib-like longitudinal folds, which are generally imbricated by foliaceous concentric lamellæ (varying in closeness and elevation), and are rarely profound: inside centrally whitish, margin quite entire, often with a few minute denticles at the hinge: beaks not prominent. *China?*

O. GLAUCINA. *Lam.* 42. Oval or oval-oblong, tumid, with the back varying from purplish brown to tawny-purple, having a peculiar resinous lustre, with obtuse and transversely wrinkled folds: posterior side denticulated near the hinge.—VAR. Disk irregular, almost devoid of folds. 2½. *Hab.?* *Certain large and strong specimens of Plicata sufficiently agree with this description.*

O. SINENSIS. *Gmel.* 3335, and *D. p.* 275, from *Ch. f.* 668 (termed by *Bolton* O. PRÆ-ADAMITICA), copied *E. t.* 184, *f.* 1, and *W. t.* 11, *f.* 64.—*Hantl. Conch. Mis. Os. f.* 9, 12.—O. FUSCA, *Lam.* 43. Strong, more or less orbicular, of an uniform dull purple, with blunt radiating folds and concentric lamellæ; subequivalve, usually affixed by about half its lower surface, devoid of tubular processes of attachment. Inside whitish, except at the margin, which partakes of the external colouring, and is not at all scabrous, but displays some coarse raised wrinkles at the extremities of the large and broad cartilage-area; scars in general brownish, oboval or suborbicular. VAR. A (type). Folds few, scarcely imbricated. VAR. B. Folds more numerous, imbricated or even squamular where crossed by the rather distant lamellæ. VAR. C. Roseate-brown: folds numerous, subangulated, closely imbricated, obsolete above. 5 or 6. *China?* VAR. C. from *L. Hood's Island.*

O. TURBINATA. *Lam.* 44.—(? *Ch. f.* 668.) Oval, dark brown, depressed near the ventral edge, obliquely turbinated near the beaks, strongly plaited by large transversely wrinkled folds: inner edge blue, not scabrous. 3½. *Indian Ocean.* "Allied to O. CRISTA-GALLI" (*Lam.*), of which it may possibly prove a variety.

O. CRISTA-GALLI.—(*Arg. t.* 20, *f.* D.—*Kn.* 5. *t.* 16, *f.* 1.)—MYTILUS C., *Lin.* 1155.—*D. p.* 299.—*W. t.* 12, *f.* 1.—O. C., *Ch. f.* 683, 4.—*Lam.* 45.—*E. t.* 186, *f.* 3, 4, 5.—*Sow. G.*—*Reeve, Syst. t.* 121, *f.* 2. Obovate, tolerably strong, granular, not flaky, unarmed, of an uniform tint, ranging from ferruginous to livid purple, with large angular radiating folds, that vary in number, and extend almost to the incurved beaks: valves almost alike, the lower with a tendency to form elongated processes of attachment: inner margin scabrous in one or both valves. 3. *Indian Ocean; frequently in groups, but not attached by the entire surface.*

O. HYOTIS.—(*Gualt. t.* 103, *f.* A.)—MYTILUS H., *Lin. Sys.* 1155; *Mus. Ultr.* 538.—*D. p.* 300.—*W. t.* 12, *f.* 2.—O. H., *Ch. f.* 685.—*Lam.* 47.—*E. t.* 186, *f.* 1.—*Desh. E.* 2, *p.* 298. Suborbicular, more

or less strong, of various shades of brown, with numerous angular radiating folds, which are armed in both valves with subtubular patulous spines; the concentric lamellæ rarely, if ever, raised; surface otherwise glabrous. Inside whitish, except near the edge, which is never scabrous: scar large, suborbicular. 6. *Indian Seas*.<sup>1</sup>

O. *RADIATA*. *Lam.* 48.—(*Fav.* t. 45, H.) Very large, convex, rounded ovate, heavy, with regular crowded longitudinal imbricated ribs; margin serrated by folds: whitish within, except at the margin. 9½... 8½. *Indian Ocean*. I am unable to identify this oyster, which "Lamarck has probably founded upon an aged *HYOTIS*" (*Desh.*).

O. *MEGODON*. *Hanl. Z. P.* 1845.—O. *GALLUS*, *Valenc. Venus*, t. 21. Solid, subequivalve, either of an uniform dusky purple or mottled with purple on a greenish ground, elongated, incurved posteriorly, so that the shell appears lunate, armed towards the margin with about 5 or 6 enormous subangular tooth-like plaits, which extend around the anterior surface only; there being, likewise, a few most indistinct angular little folds on the posterior side; glabrous, except upon the outer edge of the folds, where the successive stages of lamellæ are distinctly visible. Inside white stained with green, scar rather large and reniform, edges more or less scabrous with small granules: beaks incurved. 5. *Peru*. When attached by its entire surface, for it is usually affixed by the apex solely, the plaits are smaller and quite marginal, leaving the central portion of the shell nearly smooth.

O. *PES-TIGRIS*. *Hanl. Z. P.* 1845. Of an uniform tint, ranging from deep purple to purplish red, solid, more or less oval, and often subtriangular, in the more characteristic examples, from the abruptness of the produced and straightish posterior outline: the margin

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<sup>1</sup> Deshayes, apparently with reason, regards as a form of *HYOTIS* the

O. *IMBRICATA*. *Lam.* 46.—*E.* t. 186, f. 2, copied from *Fav.* t. 45, f. C.—*Desh. E.* 2, p. 298. Rounded, with very numerous angular folds, which are large at their termination, imbricated with lamellæ, and armed with tubular scales: inner edges glabrous. *Java*.

A small oyster, constantly met with in the boxes of Chinese shells, is usually ascribed to the same species, as either the young or a dwarf form of it. The colour is of a paler or darker reddish purple (in very immature examples mottled with that tint on a whitish ground); the folds are not decidedly angular, the structure is light, and the spines or tubular scales for the most part depressed, and sometimes undeveloped.

disposed throughout in numerous and regular rounded folds. Valves very unequal in convexity, but equal in length; the lower one profound; the upper one depressed, and divided into flattened ribs by a few broad grooves, its entire surface covered with numerous appressed imbricated lamellæ. Inside whitish, the elongated denticles extending nearly or quite round the margin of the upper valve: scar oboval or suborbicular, rather large. 2. *Philippines*. In all the examples I have seen, the hinder side of the lower valve was the more elevated.

O. PYXIDATA. Adams, *Samar*. p. 72, t. 21, f. 19. Orbicular, inequivalve, dirty brown; both valves with radiating nodulous ribs, which in the extremely convex lower one are oftentimes double; upper valve flat: ventral edge crenulated. 1. *Philippines*.<sup>1</sup>

#### VULSELLA.

*Longitudinal, subequivalve, unattached, usually imbedded in sponge, pearly within; beaks of equal length. A rather prominent hinge-callosity, in each valve, flattened above and stamped with an obliquely arcuated conic cartilage-pit.*

V. LINGULATA. (*Kn*. 5, t. 2, f. 1 to 3.)—MYA V., *Lin*. 1113.—*Ch*. f. 11.—*D*. p. 56.—V. L., *Lam*. 1.—*E*. t. 178, f. 4.—*Sow*. G.—*Reeve*, C. S. t. 108.—OSTREA V., *W*. t. 11, f. 84. Large, elongated

<sup>1</sup> Compare with the above the O. MORDAX, DISCOIDEA, GLOMERATA and CIRCUMSUTA of Gould (*Proc. Bost.* iii.), the O. SPRETA of D'Orbigny (*Cuba*), and the O. CHILENSIS of Philippi (*Kust. ed. Ch*. vii. 1, t. 19).

See, too, O. GIGANTEA of Thunberg (*Sueciae Nov. Act.* 1793), a coarse elongated oyster with depressed lamellæ from Japan; O. FORSKALII (*Ch*. 8, p. 30, f. 671, copied *W*. t. 11, f. 66), quoted by Philippi, and probably aright, for O. CORNUCOPIA, O. CORBICULUS (*Ch*. 8, p. 44, f. 680.—O. ORBICULARIS, *Dil.* 278, not of Linnæus, whose species 'was inadequately defined.—*W*. t. 11, f. 70); and O. CAPSA of Fischer (*Mus. Demid.*) from LE GARIN of Adanson (*Sen*. t. 14, f. 2).

O. DENTIFERA, CROCEA and ELLIPTICA of Dufo (*An. Sc. Nat.* ser. 2) cannot be recognised by their descriptions. O. PAPYRACEA of Gmelin (3337) and O. PAUCIPLICATA of Deshayes (*Morée*) are evidently immature; O. SEMICYLINDRICA of Say (*Jour. Ac. N. S. Philad.*), an accident of growth. The O. OVALIS of Gmelin is solely taken from Schröter's 'Einleitungen,' vol. iii. p. 378, t. 9, f. 8.

when mature, oval when young, depressed, except near the umbones, pale brown, with russet brown radiating lines that are chiefly disposed in pairs and are obsolete on the hinder side; surface in fresh examples somewhat roughened by crowded concentric lamellar wrinkles, devoid of radiating ones. 4. *Red Sea; Australia.*

V. HIAN. (*Gualt. t. 90, f. H.*)—MYA VULSELLA, young, *Ch. f. 10.*—V. H., *Lam. 2.*—(? *Sav. Egy. t. 14, f. 3.*) Oblong, subarcuated, tumid, brown with paler radiating lines: gaping on both sides, especially the hinder one. 2½. *Indian Ocean.*

V. RUGOSA. *Lam. 3.*—*Del. t. 18, f. 3.* Oblong, subarcuated, flattened, tawny-brown, not radiated, decussated by longitudinal and transverse wrinkles: anterior margin strongly arcuated, scarcely, if at all, gaping. 2.

V. SPONGIARUM. *Lam. 4.*—? MYA VULSELLA MINOR, *Ch. f. 8, 9, copied E. t. 178, f. 5.* Oblong, straight, somewhat attenuated near the beaks, with concentric wrinkles, the longitudinal ones obsolete: internal nacre with a violet tinge. 1½. *Indian Ocean. The epidermis thin, greyish and longitudinally wrinkled.*

V. MYTILINA. *Lam. 5.* Large, elongated, white, but with the vestiges of darker radiating lines, with merely the wrinkles of increase; valves convex, attenuated near the hooked beaks, flattened and dilated at the opposite extremity. 5. *Perchance a bleached LINGULATA.*

V. OVATA. *Lam. 6.* Oval-elliptic, rather depressed, somewhat violet, never rayed; with merely concentric lines of increase: nacre pearly. 1½. *Australia.*

V. NUTTALLII. *Conr. Jour. Ac. N. S. Phil. 7, p. 257, t. 20, f. 10.* Very irregular, with concentric lamellar striæ near the beaks: cavity of the interior deeply concave towards the hinge, bounded at the other extremity by a concentric ridge, the rest of the inner surface obliquely divided lengthwise by an obtuse rib. 1...½. *Friendly Isles. Possibly a distorted specimen.*

#### PLACUNA.

*Shell free, subequivalve, irregular, very flat; hinge consisting, in one valve, of two short longitudinal convergent ribs, in the form of the letter V placed upside down, which fit into two corresponding cartilage-grooves in the opposite one.*

P. SELLA.—ANOMIA S., *Gm. 3345, for Ch. f. 714.*—*D. p. 297.*—*W. t. 12, f. 30.*—PLACENTA EPHIPPIMUM, *Retz. p. 16.*—P. S., *Lam. 1.*—*E. t. 174, f. 1.*—*Gray, Cat. Plac. 2.*—*Woodw. t. 16, f. 5.* Flexuous, outline rather rhombic, but irregularly sinuous, being usually hollowed

on one or both sides (in characteristic examples saddle-shaped); rather thick, purple: the hinge-ridges of nearly equal length, not longer than they are separate from each other at the base. 5. *Java, &c.*

P. PAPYRACEA.—PLACENTA QUADRANGULA, *Retz, from Gualt. t. 104, f. B.*—EPHIPPIUM, &c., P., *Ch. f. 715, copied E. t. 174, f. 2.*—ANOMIA SELLA, JUNIOR, *D. p. 297.*—P. P., *Lam. 2.*—Gray, *Cat. Plac. p. 2.* Somewhat quadrilateral, nearly flat, thin, hyaline, brownish purple, or subradiatingly mottled with purplish liver-colour and white; hinge as in the last species. 4. *Red Sea. Perchance the young of SELLA.*

P. PLACENTA.—ANOMIA P., *Lin. 1154.*—*Ch. f. 716.*—*D. p. 297.*—*W. t. 12, f. 29.*—PLACENTA ORBICULARIS, *Retz. p. 15.*—Gray, *Cat. Plac. 4.*—P. P., *Lam. 3.*—*E. t. 173, f. 3.*—Crouch, *t. 12, f. 11.*—Reeve, *C. S. t. 122.*—Woodw. *t. 16, f. 6.* Suborbicular, longer than broad, becoming narrower towards the hinge, white, semitransparent, not flexuous: ridges of the hinge very gradually diverging from each other, of very unequal length; scar not directly under the middle of the hinge. 6. *China.*

P. LINCOLNII. Gray, *Cat. Plac. 3.* Flat, rather solid, subopaque; outline suborbicular, rounder before and behind: ridges of the hinge elongated, nearly equal, longer than they are separate from each other at the base, their angle not acute. *Australia.*

#### ANOMIA.

*Inequivalve, irregular, attached by a plug, more or less nacreous within: under valve with a large perforation near the umbo: upper valves with 2 or 3 subcentral muscular impressions.*

\* *Upper valve with 3 subcentral muscular scars.*

A. EPHIPIUM. *Lin. 1150.*—*Lam. 1.*—*Turt. Biv. 227, pl. 18, f. 1, 2, 3.*—*Br. Mol. 2, p. 325, pl. 55, f. 2, 3, 5, 7.*—A. CEPA, *Lin. 1151.*—*Poli. t. 30, f. 1, 2, 5 to 8.*—*Lam. 3.*—*Turt. Biv. 228, t. 18, f. 4.*—A. ELECTRICA, *Lin. 1150.*—*Lam. 4.*—*Turt. Biv. p. 226, t. 17, f. 8, 9.*—A. SQUAMULA, *Lin. 1150.*—*Lam. 8.*—*Turt. Biv. 229, t. 18, f. 5, 6, 7.*—A. PUNCTATA, *Ch.*—*Turt. Biv. pl. 18, f. 11.*—A. VIOLACEA, CUCULLATA, *Brug. 70, 71.*—A. FLEXUOSA, RUGOSA, CYLINDRICA, *Gm.*—A. MARGARITACEA, *Poli.*—A. PATELLARIS, PYRIFORMIS, FORNICATA, *Lam. 2, 5, 6.*—A. CYMBIFORMIS, *Mat. and Rac.*—A. TUBULARIS, *Turt.*—A. CORONATA, *Bean.*—A. POLYMORPHA, SCABRELLA, *Phil.* Moderately strong when mature, of very variable contour, suborbicular in freely-developed examples, smooth, or with slight concentric wrinkles (occasionally, from being moulded upon

foreign substances, seemingly ribbed, tuberculated, &c., but never with sculpture regularly radiating from the beaks), white, orange-yellow or reddish violet: perforation for the most part large: sub-central scars 3, the upper large, the two others rather smaller, subequal, one above the other, the lower of the two rather more behind. 2½. *Europe*.<sup>1</sup> VAR.? *from New York*. Upper valve wholly or partially yellow; lower valve green. *Looks like Philippi's figure of A. PERUVIANA* (N. C. 3, An. t. 1, f. 2, 3).

A. ACULEATA.\* Müll.—*Gm.* 3346.—*Brug.* 73.—*Mont.* 157, t. 4, f. 5.—*Gould, Mas.* p. 139, f. 90.—*Brit. Mar. C. f.* 73.—*Brit. Mol.* 2, p. 332, pl. 55, f. 4.—A. STRIOLATA, *Turt. B.* p. 233. Suborbicular, resembling the last species, but small, never coloured either within or without, and always armed in one or both valves, with most crowded series of prickly striae, which emanate from the beaks, and radiate most regularly to the margin.<sup>2</sup> ½. *Britain, &c.*

A. ÆNIGMATICA.—TELLINA Æ. *Ch. f.* 1949, 50.—A. ROSEA, *Gray, Ann. Ph.* 1825.—A. Æ. *Wieg. Arc.* 1837.—*Gray, Cat. An.* p. 20.—ÆNIGMA R., *Kust. Ch.* vii. pt. 1, t. 7, f. 1 to 7. Transverse, oval or oblong (more rarely cylindraceous), thin, compressed. Upper valve of an uniform purple or more rarely yellow tint, smooth, or with a few obsolete radiating ribs; apex acute, considerably within the dorsal edge, a rudimentary linear notch in the margin above it; upper sub-central scar rather large, the two lower ones smaller, equal-sized, nearly confluent. Lower valve very much paler; perforation small, remote from the edge; one lobe overlapping the other. 1½. *Singapore; Philippines*.<sup>3</sup>

A. LAMPE. *Gray, Z. P.* 1849, p. 117; *Cat. An.* p. 19.—*Carpenter, Mazatlan Shells*, p. 167. Thin; upper valve yellow (rarely salmon-coloured), radiatingly ribbed; apex submarginal; lower valve white,

<sup>1</sup> The two following, with the A. PECTINATA of Bruguière (*Ch.* 698, 699), and his A. STRIATULA (for *Ch. f.* 697), are probably forms of the same polymorphous shell:—

A. MEMBRANACEA. *Lam.* 7.—*E.* t. 170, f. 1, 3? Rounded, flattened, so excessively thin as to be almost membranaceous: back of the larger valve yellowish, obsoletely ribbed. 1½.

A. LENS. *Lam.* 9. Minute, obliquely elliptic; pierced valve a little convex; perforation small, oblong; umbo of the other valve acute. *Europe*.

<sup>2</sup> Philippi regards the A. ACULEATA of Loven as a distinct species, and has termed it A. VENUSTA (N. C. 3, An. t. 1, f. 5).

<sup>3</sup> Compare with this the ÆN. RETICULATUM, CORRUGATUM and CONVEXUM of Koch, in *Kust. Ch.* vii. pt. 1, t. 7.



smooth. Inside of upper valve with a defined white spatula somewhat in the shape of an isosceles triangle, with an excurved base radiating from the light green ligament and enclosing the 3 scars; plug-scar rounded subquadrate, not much larger than the other 2 round ones. 2. *California; Mexico. The scars vary as to relative position.*

A. ELYROS. *Gray, Z. P. 1849, p. 118, Mol. t. 4, f. 1; Cat. An. p. 21.* More or less orbicular; upper valve white or yellowish (especially at the umbones), most closely rayed with elevated striæ; apex marginal; subcentral scars 3, the 2 upper small, subcentral, one above the other, the lower one large, nearly circular, almost in the middle of the shell. Lower valve white or pale green, the perforation rather small. 2. *Australia.*

A. ADAMAS. *Gray, Z. P. 1849, p. 117; Cat. An. p. 18.* Red, thick, with numerous distinct radiating ribs, most indistinct on the edge of the lamina; within pearly red, with small white disk. Upper subcentral scar oblong, arched below; lower scars subequal, separate, yet close together, and nearly on the same line. *Galapagos.*

A. ACHÆUS. *Gray, Z. P. 1849, p. 116; Mol. t. 4, f. 2; Cat. An. p. 16.—Woodw. t. 16, f. 3.* Purplish, smooth; upper valve generally convex, its umbo rather acute; inside purplish white; upper of the 3 subcentral scars large, its lower edge slightly arched, the 2 lower scars small, nearly equal-sized: perforation large. *Hindustan.*

A. ALECTUS. *Gray, Z. P. 1849, p. 117; Cat. An. p. 19.* Irregular; upper valve convex, reddish, pearly within, upper subcentral scar large, oblong, 2 lower scars nearly as large (especially the lowest of the 3), close together, yet not confluent. *Peru.*<sup>1</sup>

\*\* *Upper valve with only 2 subcentral muscular scars.*  
(PLACUANOMIA.)

A. PATELLIFORMIS.\* *Lin. (not Ch.) 1151.—Brit. Mol. 2, p. 334, pl. 56, f. 5, 6.—OSTREUM STRIATUM, Da Cos. t. 11, f. 4.—A. UNDULATUM, &c., Ch. 699.—A. UNDULATA, Gm.—Mont. 157, t. 4, f. 6.—Turt. B. p. 230, t. 18, f. 8, 9, 10.—OSTREA S. Pult.—Don. t. 45.—PLACUANOMIA P. Gray, Cat. An. p. 12.* Suborbicular; upper valve with about 20 to 30 slightly flexuous radiating ribs, their intervals

<sup>1</sup> See, too, the A. AMABÆUS, CYTÆUM, DRYAS, BELESIS, ACONTES, FIDENAS, PACILUS, LARBAS and HAMILLUS, of Gray (*Z. P. 1849, and Cat. Ano.*); also the A. CHINENSIS of Philippi (*Zeit. Mal. 1848, and N. C. 3, An. t. 1, f. 1*), whose figure might be taken for EPHIPPIMUM. Compare, likewise, the A. AUSTRALIS of Gray (*Apex Fly, p. 362*), and the A. SIMPLEX of D'Orbigny.

frequently brown, the umbo usually smooth and within bluish green, apex rather within the dorsal margin; subcentral scars 2, the upper one oblong, very large; the lower one small, roundish, on the lower part of the hinder margin of the upper one: a dull triangular hollow above the great perforation. 1½. *Britain, &c.*

A. STRIATA.\* *Loven, Ind. Scan.—Brit. Mol. 2, p. 336, t. 55, f. 1, 6, and t. 53, f. 6.—? SQUAMA MAGNA, Ch. 697 (from which A. S., Gm. D. p. 290, and W. t. 11, f. 11), copied E. t. 171, f. 22, 3.* More or less orbicular, resembling the last, but with most crowded rows of regular minute radiating, yet not prickly, scales, in place of ribs: often rayed with ferruginous-brown.<sup>1</sup> 1. *North Britain, &c.*

A. CUMINGII.—PLACUANOMIA C. *Brod. Z. P. 1832.—Sow. G.—Penny Cyc. 17, p. 364.—Reeve, t. 123.—Gray, Z. P. 1849, p. 120; Cat. An. p. 9.* Depressed, roundish, dull silvery white, margin with 3 or 4 very large angular folds; perforation of lower valve small, firmly embracing the plug. 2½. *Costa Rica.*

A. RUDIS.—PLACUANOMIA R. *Brod. Z. P. 1834.—Gray, Z. P. 1849; Cat. An. p. 10.—PODODESMUS DECIPIENS, Phil. Wieg. 1837, teste Gray.* Dirty white, thick, with irregular concentric wrinkles; inside polished; subcentral scars 2, rounded, separate, of nearly equal size, the hinder one rather more transverse: perforation moderate, firmly embracing and enclosing the plug. 1½. *Cuba.*

A. MACROSCHISMA. *Desh. Rev. Z. 1839; Mag. Z. 1841.—Midd. Mol. Ros. pt. 3, p. 6; Sibir. Z. 242, t. 19, f. 1 to 5.—Phil. N. C. 3, p. 132, An. t. 1, f. 4.—PLACUANOMIA M. Gray, Cat. An. p. 11.—Woodw. t. 16, f. 4.* Large, irregularly ovate, or suborbicular, inequivalve, usually thick, greenish white, radiatingly (at times irregularly) ribbed; inner disk of the upper valve with a large dark green spot: subcentral scars 2, partly confluent on the lower hinder edge, the upper one the larger: lower valve often with a dark green margin, its perforation large, entire, a dull triangular excavation above it. 2. *Kamtskatka.*

A. FOLIATA.—PLACUANOMIA F. *Brod. Z. P. 1834.—Gray, Z. P. 1849, p. 120; Cat. An. p. 10.* Subdiaphanous, subcircular, rough, subfoliaceous, dirty white, occasionally with very slight distant radiating ribs; inside of the upper valve splendent, purple-brown in the middle; subcentral scars 2, nearly united, the upper the larger and rather elongated, the lower small and rounded. *W. Indies.*

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<sup>1</sup> The A. IMBRICATA of Bruguière (A. MURICATA, D. p. 289, from Ch. 8, vig. at p. 65, f. C. D., copied E. t. 171, f. 14, 5, and W. t. 11, f. 8) seems closely allied, if distinct.

—VAR. ? P. *ÊCHINATA*, Brod. Z. P. 1834. Upper valve with rows of prickles; its margin purplish. 1½. *W. Indies*.

A. *ZELANDICA*. Gray, in *Dief. N. Z.*—*PLACUANOMIA* Z. Gray, Z. P. 1849, p. 123; *Cat. An.* p. 13. Suborbicular, white, smooth; upper valve with distant radiating grooves; internally dark green: subcentral scars 2, confluent, upper one oblong and longitudinal, lower one rather small and more transverse: perforation large, only slightly embracing the thin plug. *N. Zealand.*<sup>1</sup>

### TRIBE BRACHIPODA.

*Animal with 2 opposite ciliated elongated arms near the mouth, that are coiled up when at rest: mantle with 2 separated lobes in front, which envelope the body. Shell bivalve, inequivalve, equilateral; either attached to marine bodies by contact, by a tendinous cord or a pedicle.*

### CRANIA.

*Inequivalve, equilateral, rounded-subquadrate; upper valve depressed convex, its vertex subcentral; lower valve testaceous, agglutinated to marine substances by its entire surface: neither hinge, teeth nor ligament.*

C. *PERSONATA*. *Hæning.* (as of *Lam.* 1) *Cran.* p. 2, f. 1.—*Sow. Th.* 1, p. 367, t. 73, f. 9. Lower valve rounded-ovate, retuse above; upper scars oblique, subreniform; lower ones united together, forming one orbicular tuberculated impression, without any rostellum; disk with a radiating palmated impression; lower margin thickened, granular. ¾. *India.* According to *Lamarck*, the upper valve is convex-conical. It is unknown to me.

C. *TURBINATA*.—*ANOMIA* T., *Poli*, t. 30, f. 15.—C. *RINGENS*, *Hæning. Mon. Cran.* p. 3, f. 2.—*Desh. E.* 2, pt. 2, p. 16, and ed. *Lam.* 7, p. 302.—*Phil. Sic.* 1, p. 100.—? *Sow. Th.* 1, p. 367, t. 73, f. 10, 1. Suborbicular, retuse and slightly narrowed above; lower valve having its upper scars ovate, subtriangular, transverse or rather oblique; its lower scars approximate to them, of the same size, united into a single transverse oblique hollow, that is rounded on both sides, and scarcely contracted in the middle; no rostellum; the radiating foot-shaped impressions of the disk indistinct; margin thickened, especially below; upper valve thin, rough, conic, concentrically striated, apex acuminate, often submarginal. *Mediterranean.* *Sowerby's*

<sup>1</sup> See, too, the P. *ABNORMALIS*, *CEPIO*, *ALOPE*, *IONE* and *COLON* of Gray's Museum Catalogue of *Anomiadæ* (previously in Z. P. 1849).

*drawing does not suit this shell; it exhibits a very decided rostellum, and absolutely simple and reniform lower scars, that greatly exceed the upper ones in size.*

C. ANOMALA.\*—PATELLA A. Müll. Z. D. t. 6.—P. DISTORTA, Mont. Tr. Lin. 11, p. 195, t. 13, f. 5.—ANOMIA TURBINATA, Dil. in part. —CRIOPUS A. Flem. —CRA. ROSTRATA, Brit. Mar. C.—ORBICULA NORVEGICA, Lam. from synonymy.—Brown.—CRA. N. Sow. Th. 1, p. 368, t. 73, f. 15, 6, 7.—CRA. R. Brit. Mol. 2, p. 366, t. 56, f. 7, 8. Rounded-subquadrate, retuse above: upper valve depressed-conical, smooth, not thick, either rufous-brown, reddish chocolate, or paler or darker liver colour, else rayed with these hues on a paler ground; its upper scars large, its lower ones still larger, nearly confluent, each divided by a few somewhat radiating, obscure, groove-like indentations: upper scars of the lower valve separate, ovate, almost linked together in the middle; lower scars large, ovate, and somewhat angular above; rostellum obtuse; disk palmato-radiated; margin thickened, and somewhat scabrous.  $\frac{1}{4}$ ... $\frac{1}{4}$ . Scotland; N. Europe. The apex is frequently submarginal.

C. ROSTRATA.—ANOMIA CRANIOLARIS, Ch. (not Lin) f. 687, f. c, d. —C. R., Hæning. Mon. Cran. p. 3, f. 3.—Desh. ed. Lam. 7, p. 302.—Sow. Th. 1, p. 368, t. 73, f. 12, 13, 14. Lower valve rounded-subtrapeziform, nearly straight above; upper scar orbicular; lower ones small, somewhat lunulate, united below; rostellum small, rather sharp; disk with palmated and digitated impressions; border granulose, irregular and thickened below: upper valve thinner, white, somewhat radiatingly rugose, internally with two elevated ridges diverging from the centre towards the upper corners.  $\frac{1}{4}$ . Mediterranean.

# DISCINA=ORBICULA.

*Suborbicular, inequivalve, compressed, devoid of ligament or hinge: upper valve depressed-conical, of a more or less horny substance, its vertex nearly central; lower valve more or less flat, membranaceous, perforated.*

D. (O.) LAMELLOSA. Brod. Z. P. 1833, p. 124; Z. T. 1, t. 28, f. 3, 4, 5.—Desh. ed. Lam. 7, p. 318.—Sow. Th. 1, p. 365, t. 73, f. 1. Of a horny substance, nearly orbicular, rather depressed, chestnut-brown, covered with elevated concentric lamellæ; disk of adhesion oblong, close to the dorsal or upper edge, perforation oblong, placed near the dorsal part of the disk.  $\frac{1}{4}$ . Peru, in groups.

D. (O.) LÆVIS. Sow. Tr. Lin. 13.—Sow. G.—Desh. ed. Lam. 7, p. 317.—Reeve, t. 129, f. 1, 2.—Sow. Th. 1, p. 365, t. 73, f. 2, 3.

Smooth, rather thin; apex distant from the margin; disk of adhesion oblong, not close to the dorsal margin; perforation short, situated near the dorsal end of the disk of adhesion.  $\frac{3}{4}$ . *Chili*.

D. (O.) TENUIS. *Sow. Th.* 1, p. 266, t. 73, f. 4, 5. Smooth, thin, apex of the upper valve near the dorsal margin; disk of adhesion obtusely triangular, close to the dorsal edge; perforation linear.  $\frac{3}{4}$ .

D. (O.) CUMINGII. *Brod. Z. P.* 1833, p. 124; *Z. T.* 1, t. 28, f. 1.—*Desh. ed. Lam.* 7, p. 317.—*Sow. Th.* 1, p. 366, t. 73, f. 6. Nearly orbicular, subconical, rather thick, with numerous striæ radiating from the subcentral apex and decussated by the elevated lines of growth; epidermis pale brown.  $\frac{1}{2}$ . *Mazatlan, near Panama*.

D. (O.) STRIATA.—DISCINA OSTREOIDES, *Lam.* (no definition).—O. NORWEGICA (not *Lam.*), *Sow. Tr. Lin.* 13, pl. 26, f. 2.—*Sow. G.—Reeve, Syst.* t. 129, f. 3, 4, 5.—D. N., *Crouch, t.* 13, f. 2.—O. S., *Sow. Th.* 1, p. 366, pl. 73, f. 8. Rather irregularly orbicular, thickish; apex nearly central; upper valve with numerous elevated striæ from the apex to the margin.  $\frac{3}{4}$ . *Mr. Sowerby appears to have changed the name from a not unreasonable doubt of the implied locality. Lamarck's pictorial definition of O. NORWEGICA points to CRANIA N. Hab.?*

D. (O.) STRIGATA. *Brod. Z. T.* 1, t. 23, f. 1.—*Sow. Th.* 1, p. 366, t. 73, f. 7. Rather thick, nearly orbicular, slightly striated, radiatingly streaked with chestnut-colour; epidermis thin, pale brown.  $\frac{1}{2}$ . *Guatemala*.<sup>1</sup>

#### THECIDIUM.<sup>2</sup>

*Small, thick, punctated, inequivalve, Terebratula-like; the larger valve attached by the produced umbo, which is imperforate when adult. Smaller valve flattened, opercular; hinge-area flat, triangular; interior almost filled by a complicated apophysis.*

T. MEDITERRANEUM.—THECIDEA M., *Risso, p.* 394, f. 183.—*Desh. Lam.* 7, p. 346.—*Phil.* 1, p. 99, t. 6, f. 17.—THECIDIUM M., *Sow. G.—Reeve, t.* 127, f. 6, 7.—*Sow. Th.* 1, p. 371, t. 73, f. 30, 1, 2.—*Gray, Brach.* p. 118, f. 126.—*Woodw. f.* 128.—T. SPONDYLEA, *Scacchi*. Small, pale yellow, smooth, subquadrate, slightly bilobed ventrally,

<sup>1</sup> See, too, the O. EVANSII of Davidson (*Z. P.* 1852, t. 14, f. 32, 3, 4), and the O. ANTILLARUM, *D'Orb. Mol. Cub.*

<sup>2</sup> THECIDEA of DeFrance, admitted as a genus by Deshayes. The internal appendage has been thus described:—"Disk grooved for the reception of the loop, the grooves separated by branches from a central septum; loop often unsymmetrical, lobed, and united more or less intimately with the sides of the groove."

attached by the produced and pointed beak; hinge-area triangular, smooth; margins thickened and granulated internally; brachial septum 3-lobed; loop rudimentary, 4-lobed.  $\frac{1}{2}$ . *Mediterranean*.

TEREBRATULA.

*Inequivalve, regular, attached by a pedicle or by the larger valve, which latter has a more or less projecting perforated umbo; hinge with two teeth; an internal skeleton.*

\* *Black; surface not shagreened.*

T. PSITTACEA.\*—ANOMIA P. *Gm.* 3348, from *A. rostrum-psittaci*, *Ch. f.* 713.—*D. p.* 296.—*W. t.* 11, *f.* 27.—T. P. *Lam.* 12.—*E. t.* 244, *f.* 3.—*Sow. G.*—*Reeve, C. S. t.* 126, *f.* 5.—*Sow. Th.* 1, *p.* 342, *t.* 71, *f.* 78, 9, 80.—HYPOTHYRIS P. *Br. Mol.* 2, *p.* 346, *t.* 57, *f.* 1, 2, 3.

Subglobose, acuminate dorsally, thin, blackish; radiatingly striated, strongly sinuated at the ventral edge. Upper valve acute and recurved dorsally, deflected ventrally; central sulcus broad and indistinct; cardinal area inconspicuous, rounded, the deltidia narrow, uniting at the sides of the incomplete triangular perforation. Lower valve ventricose, broader at the ventral margin, where the central carination (elsewhere inconspicuous) becomes distinct: the two cardinal teeth recurved, and projecting to either side of the shell. Inner margin quite entire. 1. *N. Europe; Labrador; Melville Island; very rarely in North Britain.*

T. NIGRICANS. *Sow. Th.* 1, *p.* 342, *t.* 71, *f.* 81, 2.—RYNCHONELLA N. *Davids. Z. P.* 1852, *t.* 14, *f.* 30, 1. Rounded ventrally, pointed dorsally, wider than long, rather thin, blackish, with about 25 rounded radiating ribs; marginal line straightish. Upper valve somewhat triangular and rather depressed; rounded ventrally, sloping dorsally; perforation large, square, not entire; cardinal area large, flattish, the sides rounded, deltidia narrow, uniting at the sides of the aperture. Lower valve depressed, transversely ovate; cardinal teeth as in the last. Margin crenulated; apophysis consisting of 2 short curved lamellæ.  $\frac{1}{2}$ ... $\frac{3}{4}$ . *N. Zealand.*

T. GRAYII.—RYNCHONELLA G. *Woodw. An. N. H.* 1855, *t.* 10, *f.* 16. Light horn-coloured, dull, trigonal, depressed, rounded at the sides, truncated ventrally, smooth, but strongly plaited near the margin with 4 central plaits and 3 or 4 on each side, the furrows obscurely striated; margin sinuated ventrally, and strongly toothed; perforation minute, completely tubular.  $\frac{3}{4}$ . *Feejee Isles.*

**\*\* Surface minutely shagreened or punctated; otherwise smooth.<sup>1</sup>**

**T. VITREA.**—**ANOMIA V.** *Born*, p. 119.—*Gm.* 8347.—**A. TEREBRATULA**, *D.* p. 294.—*W.* t. 11, f. 23.—**T. V.** *Lam.* 1.—*E.* t. 239, f. 1.—*Sow. Th.* 1, p. 353, t. 70, f. 56, to 59.—*Gray, Brach.* p. 17, f. 3. Rounded-ovate, ventricose, slightly diaphanous, very smooth, whitish horn-coloured, devoid of mesial ridge or furrow, subequivalve; outline nearly straight; upper valve dorsally rounded, recurved and slightly acuminate; perforation small, entire, rather oblique, with a thickened margin; cardinal area indistinct, rounded, with united indistinct deltidia. Lower valve nearly circular, slightly truncated ventrally; loop small, only one-fourth the length of the shell, arched and vaulted at the tip. Inner margin entire. *Mediterranean.*<sup>2</sup>

**T. UVA.** *Brod. Z. P.* 1833; *Z. T.* 1, t. 22, f. 2.—*Sow. Th.* 1, p. 353, t. 70, f. 53, 4, 5.—*Gray, Brach.* p. 18. Oblong, gibbous, smooth, pale, slightly diaphanous, devoid of mesial ridge or furrow; marginal line sloping from the apex, then somewhat flexuous. Upper valve dorsally produced, its apex reflected and truncated; perforation large, entire, very oblique, with a thickened margin; cardinal area indistinct, rounded; deltidia small, united, concave. Lower valve ovate-oblong; internal appendage formed of two rays setting off from the hinge and expanded at the ends. Inner margin entire. *Gulf of Tehuantepec.* The punctuation of surface is coarser than in **VITREA**.

<sup>1</sup> The following more scientific division, by Dr. Gray, is much preferable, yet is scarcely to be practised without injury to the specimens. By the sequence of species, aided by the notes, it is made available to our readers:—

**TEREBRATULINA.** *Hinge-line decidedly curved; margin even or only slightly waved; loop attached to the hinge-plate only.* Includes **TEREBRATULA**, **TEREBRATULINA**, **WALDHEIMIA**.

**MAGASINA.** *Hinge-line not much, if at all, curved; smaller valve with a longitudinal depression; loop attached to the septum in the middle of the smaller valve.* Includes **TEREBRATELLA**, **MAGAS**, **BOUCHARDIA**, **MEGERLIA**, **MORRISIA**, **KRAUSSIA**.

**ARGIOPINA.** *Transversely oblong or semicircular; loop attached to the surface of the valve.* Contains **ARGIOPE** only.

<sup>2</sup> This and the succeeding species (the latter with doubt) are the only recent shells included by Gray in **TEREBRATULA** proper:—

**TEREBRATULA.** Smooth, convex; beak truncated and perforated; foramen circular; deltidium of two pieces, frequently blended; loop very short, simple, attached by its crura to the hinge-plate.

**T. LENTICULARIS.** *Desh. Mag. Z.* 1841, t. 41.—*Sow. Th.* 1, p. 360, t. 72, f. 108, 9, 0.—**WALDHEIMIA** L. *Gray, Brach.* p. 58. Orbicular, lentiform, smooth, dark red, subinequivalve, marginal line ascending from the umbo, then nearly straight, and very slightly sinuated at the ventral margin. Upper valve slightly acuminate and recurved dorsally; perforation small, complete; cardinal area flattened, angular on the sides; deltidia rather large, flat, united. Lower valve circular, the internal appendage consisting of a single mesial rib (one-third the length of the shell) and two branches setting off from the umbones.  
2. *New Zealand.*

**T. CRANIUM.** *Müll. Z. D. Prod.*—*Mont. T. L.* 11, p. 188, pl. 13, f. 2.—*Sow. Th.* 1, p. 354, t. 70, f. 60, 1, 2.—*Br. Mol.* 2, p. 357, t. 57, f. 11.—**ANOMIA** C. *Gm.*—**T. VITREA,** *Fl.*—**WALDHEIMIA** C. *Gray, Brach.* p. 58. Ovate, subtruncated at the ventral margin, slightly acuminate dorsally, gibbous, pale, somewhat diaphanous; valves equally convex; margin flexuous, slightly sinuated at the broader extremity, entire. Upper valve somewhat produced, slightly recurved and obliquely truncated at its dorsal end; perforation large, incomplete; cardinal area indistinct, rounded, its deltidia small, linear, separate. Lower valve slightly flattened, and somewhat angular at the broader extremity; internal appendage large, two-thirds the length of the valve, forming two lateral loops, one on each side, and then uniting to form one very large upper loop. 1. *N. Europe; Britain, rarely.*

**T. SEPTIGERA.** *Loven, Ind. Scand.* 29.—**WALDHEIMIA** S. *Gray, Brach.* p. 59.—*Dauids. Ann. N. H.* 1855, t. 10, f. 1. Whitish, smooth, subpellucid, tumid, ovate-trigonal, strongly beaked, slightly bicipitate; ventral edge truncated, meeting the sides at obtuse angles; perforation large, round; deltidium connate; smaller valve with a produced raised median septum; loop reflected, three-fourths as long as the interior of the shell. 1½. *N. Europe.*

**T. GLOBOSA.** *Lam.* 4.—*Bl.* t. 52, f. 2.—*Sow. Th.* 1, p. 359, t. 71, f. 99 to 101.—**WALDHEIMIA** G. *Gray, Brach.* p. 59. Ovate, ventricose, subequivalve, whitish, very smooth, slightly trilobed ventrally; margin entire, straight, sinuated at the ventral portion. Upper valve slightly acuminate dorsally, its vertex subreflected and truncated; perforation large, oblique, nearly complete; cardinal area large, rounded on the sides; deltidia large, triangular, separate; mesial ridge broad, rounded, not very distinct. Lower valve rounded, slightly lobed ventrally; internal appendage large, two-thirds the length of the valve, and formed as in *CALIFORNICA*. 1½...1½.

**T. PICTA.**—**ANOMIA** P. *Ch.* 11, f. 2011, 2.—**A. CRANIUM,** var. *D.* p. 295.—**A. RUBRA,** *W. S.* t. 2, *An. f.* 4.—*T. P. Sow. Th.* 1, p. 351, t. 70, f. 43, 4.—**WALDHEIMIA** P. *Gray, Brach.* p. 59. Ovate, slightly acuminate dorsally, thin, red with somewhat radiating white spots;



valves nearly equal, smooth, without mesial ridge or furrow; margin entire, straight, its ventral portion very obsoletely sinuated. Apex of the upper valve recurved, with a small entire perforation; cardinal area small, rounded laterally, with small narrow united deltidia. Lower valve flattish, its internal appendage elongated, recurved. *Java*. 1... $\frac{3}{4}$ .

T. DILATATA. *Lam.* 2.—*Sow. Th.* 1, p. 352, t. 70, f. 48, 9.—T. GAUDICHARDI, *Bl. Dict. Sc. Nat.*—WALDHEIMIA D. Gray, *Brach.* 59. Nearly orbicular, thin, smooth, pale brownish; valves unequal; margin flexuous, entire. Upper valve slightly acuminate dorsally, reflected, obtuse, with a large incomplete perforation; cardinal area rather large, flattened, with obtusely angular sides; deltidia rather large, separate; mesial ridge very slight. Lower valve nearly orbicular; internal appendage large, three-fourths the length of the shell, reflected as in CALIFORNICA. 1 $\frac{1}{2}$ .

T. CALIFORNICA. *Kuster*, vii. 1, t. 2, b, f. 21, 2, 3.—*Sow. Th.* 1, p. 352, t. 70, f. 50, 1, 2.—WALDHEIMIA C. Gray, *Brach.* p. 60. Nearly orbicular, slightly acuminate dorsally, gibbous, light brown; valves nearly equal, smooth; margin entire, sloping from the apex, then straightish and very obsoletely sinuated in the middle of the ventral margin. Upper valve slightly beaked, apex short, slightly acuminate, reflected; perforation small, entire; cardinal area rather broad, its edges obtusely angular; deltidia oblong, triangular, and united; no mesial ridge. Lower valve orbicular, without a mesial furrow; internal appendage large, two-thirds the length of the shell; loop reflected. 2...1 $\frac{1}{2}$ . *California; the largest of the TEREBRATULÆ*.<sup>1</sup>

T. ROSEA.—ANOMIA R. *Mawe* (1823), t. 15, f. 4.—*W. S. An.* t. 2, f. 2.—T. R. *Sow. G.—Desh. ed. Lam.* 7, p. 350,—*Reeve, C. S.* t. 126, f. 4.—*Sow. Th.* 1, p. 357, t. 71, f. 74, 5, 6, 7.—BOUCHARDIA R. *David. B. Geol. Fr.*—B. TULIPA, Gray, *Brach.* p. 101. Oblong-oval, rather depressed, slightly attenuated dorsally, thick, subequivalve, smooth, rose-coloured, with paler radiating marks; margin entire, somewhat flexuous, reflected ventrally. Upper valve the larger, rather produced dorsally, truncated; perforation very small, complete, apical; cardinal area rather wide, with united deltidia, which are marked by a mesial groove. Lower valve ovate, slightly attenuated and rounded at the ventral portion, broader at the dorsal portion, from whence the sides

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<sup>1</sup> This, with the six preceding species, and T. FLAVESCENS and GRAYI, belong to the genus WALDHEIMIA. "Smooth or plaited; foramen complete; loop elongated, and reflected; septum of the smaller valve elongated."

slope inwards; internal appendage consisting of a single elevated projecting rib.  $\frac{1}{4} \dots \frac{1}{4}$ . *Brazil*.<sup>1</sup>

T. ANOMIOIDES.—ORTHIS A. *Scacchi and Phil.* 2, p. 69, t. 18, f. 9.  
—T. APPRESSA, *Forbes, Report Brit. As.* 1843, p. 193.—MORRISIA SEMINULUM, *Dauids*.—M. A. *Gray, Brach.* p. 108, f. 17, 18.—*Woodw.* f. 119. Minute, circular, depressed, smooth, olive-green, translucent; perforation large and round, encroaching equally on both valves, area of the upper valve chiefly occupied by it; deltidia rudimentary; lower valve deeply notched at the umbo; loop consisting of two simple plates attached to the sides of the umbonal notch and to a central bifurcated process.  $\frac{1}{4}$ . *Mediterranean*.<sup>2</sup>

T. LUNIFERA. *Phil. Sic.* 1, p. 97, t. 6, f. 16; 2, p. 69 (as ORTHIS L.).  
—MORRISIA L. *Gray, Brach.* p. 108. Minute, subcordate, compressed, retuse ventrally, bluntly peaked dorsally; area moderate; internal skeleton consisting of a semilunar plate in the centre of the smaller (lower) valve.  $\frac{1}{4}$ . *Mediterranean*.

T. DAVIDSONI.—MORRISIA D. *Deslongchamps, Ann. N. H.* 1855, t. 10, f. 20. Transverse, irregularly oval (but variable in shape), coarsely punctate, thin, light yellowish, covered with spinous asperities that are chiefly manifest near the margin. Upper valve convex; hinge-line straight; area narrow; deltidia very small, edging only the very small portion of the foramen existing in this valve. Lower valve flat; with a large circular perforation.  $\frac{1}{4} \dots \frac{1}{2}$ . *Tunis*?

T. PULCHELLA. *Sow. Thes. Conch.* 1, p. 360, t. 71, f. 105, 6, 7.—MEGERLLA P. *Gray, Brach.* p. 104. Subovate, acuminate and rounded dorsally, smooth, whitish, with a few radiating red lines, inequivalve; margins entire, somewhat flexuous. Upper valve rather flattened, acuminate dorsally, rounded ventrally; perforation large, incomplete; cardinal area indistinct, its sides rounded; deltidia small, separate. Lower valve somewhat circular; internal appendage consisting of a single prominent gnomon near the ventral portion.  $\frac{1}{4}$ . *Philippines; Isle of Cocos*. "Loop small, trebly attached" (*Gray*).

<sup>1</sup> The genus BOUCHARDIA of Davidson was formed for this species. "Beak prominent, with a minute apical foramen; deltidium blended with the shell; apophysis anchor-shaped, the central septum being furnished with two short lamellæ.

<sup>2</sup> This and the two following are the only known recent species of Davidson's subgenus MORRISIA. "Shell with a large foramen encroaching (equally for the most part) on both valves; ventral (upper) valve with a small straight area; loop not reflected, united to a small forked process in the centre of the valve; structure coarsely punctate" (*Gray*).

T. COREANICA. *Adams and Reeve, Samar. p. 71, t. 21, f. 3.*—TEREBRATELLA C. *Gray, Brach. p. 88.* Subquadrangular. smooth, pale brown, with crimson rays; beak obtuse, with lateral ridges; upper valve convex, somewhat keeled in the middle; lower valve the more depressed, somewhat pinched near the sides; hinge-area large; deltidia united; perforation large, complete, angular at the sides; loop elongated, doubly attached.  $1\frac{1}{2}$ . *Corean Archipelago.*<sup>1</sup>

T. BOUCHARDIA.—TEREBRATELLA B. *Dauids. Z. P. 1852, t. 14, f. 4, 5, 6.*—*Gray, Brach. p. 88.* Suborbicular, smooth, of a uniform light yellow; beak produced, recurved, furnished with lateral ridges, and truncated by a large circular entire perforation; deltidia united; hinge-area slightly concave; lower valve depressed in the middle ventrally; loop elongated, doubly attached.  $1\frac{1}{2}$ .

T. RUBICUNDA. *Don. Nat. Rep. t. 56, f. 2, 3, 4.*—*Sow. Th. 1, p. 351, t. 70, f. 45, 6, 7.*—T. INCONSPICUA, *Sow. Th. 1, p. 359, t. 71, f. 102, 3, 4.*—TEREBRATELLA R. *Gray, Brach. p. 89.* Nearly orbicular, rather acuminate dorsally, red, gibbous, smooth; valves unequal, rather irregular; margin entire, slightly flexuous on the sides, its ventral portion sinuated. Upper valve produced and truncated dorsally, its perforation large, oblique and nearly entire; cardinal area rounded; deltidia large, separate; mesial ridge broad and prominent, angularly rounded and obtuse on both sides. Lower valve somewhat pentagonal, dorsally narrow, broad and somewhat angularly rounded in the middle, slightly truncated ventrally; mesial groove broad and distinct; loop elongated, doubly attached. 1. *N. Zealand.*<sup>2</sup>

T. TRANSVERSA. *Sow. Th. 1, p. 361, t. 72, f. 114, 115.*—TEREBRATELLA T., *Gray, Brach. p. 89.* Transversely subovate, thin, pale horn-coloured, smooth, merely wrinkled by the lines of growth. Upper valve somewhat tetragonally ovate, very obtusely angular and reflected dorsally; perforation very large, incomplete; hinge-area large and flattened; deltidia small and distant; mesial ridge rounded and indistinct. Lower valve transversely oblong, very obtusely angulated dorsally; mesial groove rounded, indistinct. Margin entire, somewhat flexuous.  $1\frac{1}{2}$ ... $1\frac{1}{2}$ .

<sup>1</sup> This, the next thirteen species, and T. EVANSII and CRENULATA (*teste Davidson*) belong to the subgenus TEREBRATELLA, which has been thus defined:—"Loop elongated, reflected, doubly attached, to the hinge-plate, and also to the longitudinal septum, by processes given off at right angles from the crura near the centre of the valve."

<sup>2</sup> Woodward suggests that the WALTONIA VALENCIENNEI of Davidson may possibly prove the fry of this species with the reflected portion of the loop wanting.

T. RUBELLA. *Sow. Th.* 1, p. 350, t. 69, f. 40, 1, 2.—TEREBRATELLA R. Gray, *Brach.* p. 90. Nearly oval, rather acuminate dorsally, a little gibbous, slightly sinuated ventrally; valves unequal, smooth, red; margin entire, a little sinuated ventrally. Upper valve reflected, without any mesial ridge, but with a very obsolete mesial furrow; perforation small; hinge-area narrow, rounded at the sides, with rather large united deltidia. Lower valve ovate, with a broad mesial groove forming a ventral sinus: internal appendage as in FLAVESCENS.  $\frac{1}{2}$ ... $\frac{3}{4}$ . *Japan*.

T. SANGUINEA.—ANOMIA S. *Ch.* f. 706.—D. p. 293.—A. SANGUINOLENTA, *Gm.*—W. t. 11, f. 21.—T. ERYTHROLEUCA, *Quoy, Ast.* t. 85, f. 8, 9.—*Desh. ed. Lam.* 7, p. 350.—T. S. *Sow. Th.* 1, p. 357, t. 71, f. 71, 2, 3.—TEREBRATELLA S. Gray, *Brach.* p. 90. Suborbicular, slightly notched at the ventral edge, rather gibbous, thin, of a bright light red, with rays and radiating spots of white; margin entire, not waved, slightly sinuated ventrally. Upper valve rather acuminate dorsally and truncated; perforation middle-sized, complete; hinge-area rather broad, with sharpish edges; deltidia rather large, united. Lower valve somewhat depressed, transversely ovate; internal appendage at first forming two rays, then a central ring and two lateral loops, at length a reflected upper loop united to the central ring.  $\frac{1}{2}$ ... $\frac{3}{4}$ . *Philippines*.

T. FRONTALIS. *Middend. Mal. Ros.* 3, p. 2; *Sibir.* p. 241, t. 18, f. 9 to 14.—TEREBRATELLA F. Gray, *Brach.* p. 80. Suborbicular, rather solid, almost smooth, dirty yellowish, devoid of mesial ridge or groove; valves equally convex; margin hardly waved, quite entire. Upper valve produced, scarcely recurved and broadly truncated dorsally; perforation very large, incomplete. Smaller valve roundish or transversely oval: loop elongated, doubly attached.  $\frac{3}{4}$ . *Siberia*.

T. SPITZBERGENSIS.—TEREBRATELLA S. *Davids. Z. P.* 1852; *Ann. N. H.* 1855, t. 10, f. 3.—Gray, *Brach.* p. 91. Small, oval, elongated, smooth, pale horn-coloured; valves almost equally convex, margins even; dorsal valve slightly depressed in front; beak produced, recurved, obscurely keeled; perforation moderate, incomplete; deltidium of two distinct elongated plates; loop elongated, reflected, attached near the extremity of the prominent central septum.  $\frac{1}{2}$ ... $\frac{3}{4}$ . *Spitzbergen*.

\*\*\* *Surface minutely shagreened; with radiating sculpture.*

T. DORSATA.—ANOMIA STRIATA, &c. *Ch.* 8, f. 710.—A. D. *Gm.*—D. p. 295.—W. t. 11, f. 26.—T. D. *Lam.* 8.—E. t. 242, f. 1.—*Sow. G.*—*Reeve*, t. 126, f. 3.—*Sow. Th.* 1, p. 346, t. 68, f. 15, 6, 7.—TEREBRATELLA D. Gray, *Brach.* p. 87. Suborbicular-trapezoidal, rather gibbous, whitish; valves unequal, with radiating ridges; margin

dorsal edge nearly straight; interior with two small central diverging branches which expand at their apices.  $\frac{1}{2}$ . *S. Africa*.

T. PISUM. *Lam.* 3.—*Sow. Th.* 1, p. 345, t. 69, f. 37, 8, 9.—KRAUSSIA P. *Gray, Brach.* p. 110. Transversely subovate, slightly reddish; valves nearly equal, with a few rather obsolete obtuse and rounded radiating ridges; margin slightly crenulated, not flexuous, deeply sinuated ventrally: mesial ridge and furrow broad and rounded. Upper valve slightly produced, very obtuse, with a large incomplete perforation; hinge-area small, linear; deltidia small, nearly triangular. Dorsal edge of the lower valve rather broad, nearly straight: apophysis central, forked.  $\frac{1}{2}$ . *Natal*.

T. ALGOENSIS. *Sow. Th.* 1, p. 362, t. 71, f. 91, 92.—KRAUSSIA A. *Gray, Brach.* p. 111. Suborbicular, slightly acuminate dorsally, rather lobed ventrally, radiatingly striated; mesial groove distinct, roundish; perforation large, incomplete. Inner edge of the upper valve very minutely crenulated.  $\frac{1}{2}$ . *Algoa Bay*. Lower valve unknown. Not unlike the T. NATALENSIS of Krauss as delineated by Kuster (vii. 1, t. 2, b, f. 4 to 7).

T. LAMARCKIANA.—KRAUSSIA L. *Dauids. Z. P.* 1852, t. 14, f. 22, 3.—*Gray, Brach.* p. 111, f. 20. Suborbicular, striated with fine bifurcated ridges, light yellow; hinge-area well defined, flat; perforation large, incomplete; deltidia small; lower valve with a mesial furrow; apophysis central, bifurcated; margins of the valves thickened and spinulose within.  $\frac{1}{2}$ . *Australia; N. Zealand*.

T. DESHAYESII.—T. CAPENSIS. *Adams (not Gm.), Samar.* p. 71, t. 21, f. 4.—KRAUSSIA D. *Dauids. Z. P.* 1852, t. 14, f. 20, 1.—*Gray, Brach.* p. 111. Rounded-subtrigonal, rather produced at the beak, reddish brown, with about six red rays, thickish, radiatingly costated; perforation moderate, incomplete; deltidia separate; lower valve depressed in the middle; apophysis central, forked.  $\frac{1}{2}$ . *Cape G. Hope*.

T. FLAVESCENS. *Lam.*—T. DENTATA, *Lam.* 7.—T. AUSTRALIS, *Quoy, Ast.* t. 85, f. 1 to 5.—*Sow. Th.* 1, p. 349, t. 69, f. 25 to 33.—WALDHEIMIA F. *Gray, Brach.* p. 58.—W. A. *Woodw.* t. 15, f. 4. Nearly oval, slightly acuminate dorsally, generally gibbous, sometimes slightly flattened, whitish, yellowish, or brownish; valves unequal, smooth, generally more or less (sometimes very obsoletely) radiatingly grooved; margin scarcely flexuous laterally, more or less sinuated ventrally: mesial ridge and furrow broad, indistinct. Upper valve obtuse, reflected; perforation moderate, entire, round; hinge-area broad, rather indistinct, with rounded edges; deltidia large, united in the middle. Lower valve nearly circular, gibbous; internal appendage as in DORSATA, the upper loop being very large. Margin generally toothed, teeth more or less numerous, large or small,

sometimes very obsolete, sometimes very large, particularly those which form the sides of the mesial furrow. *Var.* T. RECURVA, Quoy, *Ast.*—*Sow. Th.* 1, p. 350, t. 69, f. 34, 5, 6. Rounded-subtetragonal; edge undulated, flexuous at the sides dorsally; mesial ridge obsolete; lower valve broader than long.  $1\frac{1}{2}$ . *Australia*.<sup>1</sup>

T. GRAYII. *David.* Z. P. 1852, t. 14, f. 1, 2, 3.—WALDHEIMIA G. Gray, *Brach.* p. 79. Suborbicular, reddish yellow, becoming deep red at the lines of growth, radiated with numerous unequal bifurcated and intercalated ribs; upper valve convex; lower valve flattish; beak obtuse, with distinct lateral ridges; perforation very large, incomplete; deltidia disunited; loop elongated, reflected.  $1\frac{1}{2}$ ... $1\frac{1}{4}$ . *Korea*.

T. CAPUT-SERPENTIS.\*—ANOMIA C. RETUSA and PUBESCENS, *Lin.*—T. R. Retz.—A. C. Ch. 11, f. 2013.—W. t. 11, f. 22.—T. C. Lam.—*Sow. G.*—Phil. 95.—*Sow. Th.* 1, p. 343, t. 68, f. 1 to 4, and t. 72, f. 116.—Br. Mol. 2, p. 353, t. 56, f. 1, 2, 3, 4.—T. COSTATA, *Loew.* Z. J. 2.—T. AURITA, *Flem.*—TEREBRATULINA C. Gray, *Brach.* p. 49. Ovale, of a rounded somewhat pentagonal figure, whitish; valves nearly equally convex, with radiating dichotomous subgranular costellæ; margin minutely crenulated, flexuous at the sides, slightly notched ventrally. Upper valve somewhat beaked, its perforation moderate, oblique, incomplete; hinge-area rather flattened, deltidia nearly obsolete; internal appendage small, about one-third the length of the shell, arched below, and vaulted.  $\frac{3}{4}$ . *Europe*.<sup>2</sup>

T. SEPTENTRIONALIS. *Conthouy, Bost. J.* 2.—*Sow. Th.* 1, p. 344, t. 68, f. 7, 8.—T. CAPUT-SERPENTIS, *Gould, Mas.* 141.—TEREBRATULINA S. Gray, *Brach.* p. 50. Subovate, obtusely acuminate dorsally, nearly white; valves almost equally convex, with very slender, dichotomous radiating roughish little ridges; margin minutely crenulated, flexuous at the sides, nearly straight ventrally, perforation rather large, not complete, somewhat oblique; hinge-area nearly flattened, with small nearly obsolete deltidia; internal appendages small, two-fifths of the length of the valve, arched ventrally, with a little branch above on each side, joined in the middle.  $\frac{3}{4}$ . *U. States*. Distinguished from the last by its finer striae, its larger and less oblique

<sup>1</sup> T. ROTUNDATA, *Lam.* 5.—*E. t.* 239, f. 5. "Rounded, whitish, smooth (with only very delicate concentric striae); ventral edge bipli-cated, contracted on either side." *Not since recognised*.

<sup>2</sup> This and the six following species belong to TEREBRATULINA. "Finely striated, auriculate; deltidium usually rudimental; foramen incomplete; loop short, rendered annular in the adult by the union of the oral processes."

perforation, and its rather more extended and somewhat differently formed internal appendage.

T. JAPONICA. *Sow. Th.* 1, p. 344, t. 68, f. 7, 8.—TEREBRATULINA J. *Gray, Brach.* p. 50, probably. Oblong, rounded ventrally, thin, whitish; valves nearly equally convex, with numerous radiating rather irregularly dichotomous striæ, which very minutely denticulate the edge, and are very closely arranged on the sides near the hinge, where the outline is rather flattened. Upper valve somewhat produced and truncated dorsally; perforation moderately large, very oblique, incomplete; hinge-area indistinct, with obsolete deltidia; internal appendages small, one-third the length of the valve, with two narrow little branches and then a broad flexuous loop.  $1\frac{1}{2}$ . Japan. The loop is termed "anelliform" by Gray.

T. ANGUSTA. *Adams and Reeve, Samar.* p. 71, t. 21, f. 2.—TEREBRATULINA A. *Gray, Brach.* p. 50. Elongated-oval, slightly compressed, transparent white, radiated with very fine and close rugulose costellæ; beak truncated; valves nearly equal, with a slight mesial indentation, a little sinuated ventrally.  $\frac{1}{2}$ . Japan. Very like T. CAPUT-SERPENTIS.

T. CANCELLATA. *Koch in Kust.* vii. 1, t. 2, b, f. 11, 2, 3.—*Sow. Th.* 1, p. 358, t. 71, f. 93, 4, 5.—TEREBRATULINA C. *Gray, Brach.* p. 50. Ovate-oblong, ventricose, brownish, with very slender close-set radiating striæ, that are finely decussated by the lines of growth; edge very finely crenulated, flexuous. Valves very unequal; upper one the more convex, oblong, acuminate and truncated dorsally; lower one subovate, with the dorsal edges sloping. Perforation large, round, complete; hinge-area rounded, with rather large obsoletely grooved deltidia, that are united in the middle; loop short.  $\frac{1}{2}$ .

T. ABYSSICOLA. *Adams and Reeve, Samar.* p. 72, t. 21, f. 5.—TEREBRATULINA A. *Gray, Brach.* p. 51. Subovate-trigonal, tapering to the beak, subtruncated and retuse ventrally, pellucid flesh-colour, obscurely radiated with obsolete costellæ and raised striæ; beak produced; perforation moderate, entire. Valves nearly equally convex; lower one bluntly acuminate dorsally, with a slight mesial depression.  $\frac{3}{4}$ . Cape G. Hope.

T. CUMINGII.—TEREBRATULINA C. *Dauids. Z. P.* 1852, t. 14, f. 17, 8, 9.—*Gray, Brach.* p. 51. Very small, somewhat pentagonal, gibbous, yellowish white, rayed with very numerous minute intercalated raised striæ; with very small ears; beak small, obliquely truncated by a round incomplete perforation; deltidia separate; margins slightly sinuated ventrally; loop anelliform.  $\frac{1}{2}$ . Chinese Seas.

T. EVANSII.—TEREBRATULA E. *Dauids. Z. P.* 1852, t. 14, f. 7, 8, 9.—*MAGAS E. Gray, Brach.* p. 99, f. 11, 2. Subovate, pale red, with a few unequal bifurcated ribs; beak tapering, slightly recurved, with

well-defined lateral ridges; perforation incomplete; deltidia small; area flattened; lower valve rather flat; loop elongated, doubly attached; septum produced, nearly touching the opposite valve.  $\frac{1}{2}$ . *N. Zealand.*<sup>1</sup>

T. CRENULATA. *Sow. Th.* 1, p. 358, t. 71, f. 96, 7, 8.—*Koch in Kust.* vii. 1, t. 2, b, f. 11, 2, 3?—TEREBRATELLA C. *Davidson*. (no desc.). —? MAGAS C. *Gray, Brach.* p. 99. Suborbicular, inequivalve, rather attenuated and subtruncated dorsally, rather thick, whitish, with a few rather large rounded radiating ribs; margin crenated, flexuous, slightly sinuated ventrally; perforation large, nearly entire; hinge-area large, flattish, with an undulated margin; deltidia large, separate. Dorsal edges of the lower valve sloping; internal appendage consisting of a single strong spine projecting towards the ventral margin, from whence emanate two lateral reflected branches.  $\frac{1}{2}$ . *Santa Cruz.*

T. TRUNCATA.—ANOMIA T. *Lin.* 1152.—*Ch. f.* 701.—*W. t.* 11, f. 17. —A. DISCULUS, *Pallas. Mis. Z.*—T. T. *Lam.* 11.—*Phil.* 1, p. 95, t. 6, f. 12 (in 2 as ORTHIS T.).—*Sow. Th.* 1, p. 354, t. 71, f. 64 to 67.—MEGERLIA T. *Gray, Brach.* p. 103.—*Woodw. t.* 15, f. 9. Transversely suborbicular, subequivalve, depressed, truncated and very wide dorsally, brownish, with a nearly straight hinge-line, and fine radiating striæ: margin entire, slightly sinuated ventrally. Perforation large, incomplete; hinge-area elongated-triangular, flattened, with minute inconspicuous deltidia; mesial ridge small. Lower valve rather flattened, straight dorsally, with a small mesial notch; mesial groove rather broad, not very distinct; loop short, doubly attached, and giving off from its reflected portion two additional processes to the central septum: internal surface with small close-set radiating granules.  $\frac{1}{2}$ ... $\frac{1}{2}$ . *Mediterranean.*<sup>2</sup>

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<sup>1</sup> This, the succeeding, and the TEREBRATELLA? CUMINGII of Davidson (*Z. P.* 1852, t. 14, f. 10 to 16.—M. C. *Gray, Brach.* p. 99) are referred by Gray (not by Davidson) to the subgenus MAGAS (of Sowerby). The last-named species is thus described:—"Oval, thick, smooth, white, slightly tinged with red; beak produced, tapering, slightly curved, grooved to the summit; area triangular, concave; deltidium obsolete; lower valve with a prominent muscular fulcrum; loop doubly attached; septum elevated, reaching the upper valve.  $\frac{1}{2}$ ... $\frac{1}{2}$ . *N. Zealand.*

<sup>2</sup> This and T. PULCHELLA are the only recent species of the subgenus MEGERLIA. "Transversely oblong, with a wide and rather straight hinge-line; area distinct; foramen incomplete; loop rather short, reflected, trebly attached to the hinge-plate, once by its crura, and twice to the septum."



T. DECOLLATA.—ANOMIA D. *Ch.* f. 705.—D. p. 292.—A. DE-TRUNCATA, *Gm.*—W. t. 11, f. 19.—T. DEC. *Desh. ed. Lam.* 7, p. 350.—*Sow. Th.* 1, p. 355, t. 71, f. 68 to 70.—T. DET. *Phil.* 1, p. 96, t. 6, f. 14.—ARGIOPE DEC. *Gray, Brach.* p. 113, f. 22. Transverse, rounded ventrally, angular at the dorsal extremities, thick, brownish: valves very unequal, with only a few smooth obtuse radiating ribs; margin thickened, not flexuous at the ventral portion. Upper valve large; cardinal area large, triangular, flattened, with a large incomplete perforation. Lower valve semicircular; hinge-line transverse and straight; interior with three radiating elevated ribs truncated towards the hinge, and a cardinal tooth on either side.  $\frac{1}{4}$ . *Mediterranean*.<sup>1</sup>

T. CUNEATA. *Risso*, p. 388, f. 179.—*Phil. Sic.* 1, p. 96, t. 6, f. 13.—*Sow. Th.* 1, p. 355, t. 71, f. 83, 4.—T. SOLDANIANA, *Risso*, p. 389, f. 178.—T. PERA, *Kust. (as of Muhl.)* vii. 1, t. 2, b, f. 14 to 18.—ARGIOPE C. *Gray, Brach.* p. 114. Very small, transverse, rounded ventrally, rather angular and truncated dorsally, whitish; valves very unequal, roughish, with a very few obtuse radiating ribs, whose intervals are rose-coloured. Margin crenated, nearly direct. Upper valve obtuse, with a very large incomplete perforation; hinge-area large, flattened. Lower valve depressed, broadly suborbicular; its dorsal line straight, but notched in the middle; internal appendage merely a single rib.  $2\ldots 2\frac{1}{4}$  lines. *Mediterranean*.

T. NEAPOLITANA. *Scacchi, Os. Z.* 2 (1833), p. 18.—T. SEMINULUM, *Phil.* 1, p. 97.—*Sow. Th.* 1, p. 356, t. 71, f. 87, 8 (and f. 85, 6 as LUNIFERA).—ORTHIS N. *Phil.* 2, p. 69.—ARGIOPE FORBESII, *David.*—A. N. *Gray, Brach.* p. 114, f. 23. Minute, somewhat transverse, inequivalve, compressed, acuminate dorsally, emarginate ventrally, pale fulvous, with a very few rounded and nearly obsolete radiating ribs. Perforation large, incomplete, triangular; hinge-area moderate, flattened, with small narrow deltidia. Lower valve with a straight hinge-line; internal appendage merely a single elevated central ridge connected with the dental sockets by a loop on either side. Inner margin thickened and granular.  $\frac{1}{4}$  *Sicily*.

T. CISTELLULA.\* *Searles Wood, An. N. H.* 6 (fossil).—MEGATHYRIS C. *Br. Mol.* 2, p. 361, t. 57, f. 9.—ARGIOPE C. *Gray, Brach.* p. 114.

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<sup>1</sup> This, with the three following species, are the only known recent members of the genus ARGIOPE. "Small, transverse; hinge-line wide and straight, with a narrow area to each valve; foramen large; deltidium rudimentary; interior of smaller valve with one or more prominent submarginal septa; loop 2 or 4-lobed, adhering to the septa, and more or less confluent with the valve."

Minute, more or less orbicular or semicircular, retuse ventrally, depressed, subequivalve, horn-coloured, shagreened, but otherwise smooth; mesial groove distinct; hinge-line straight, much produced; hinge-area depressed, triangular; perforation very large, intruding upon the lower valve: inner edges radiatingly scabrous: a single median septum, and a two-lobed loop.  $\frac{1}{2}$ . *Zeland.*

# LINGULA.

*Thin, subequivalve, equilateral, ovate-elongated, depressed, subtruncated at one end, subacute at the other, fixed to a peduncle; devoid of hinge or ligament; muscular impressions several in each valve, arranged in pairs.*

L. ANATINA. *Lam. Syst. Anim.*—*Lam.* 1.—*Bl.* t. 51, f. 3.—*Sow. G. Ling.* f. 4, 5.—*Reeve, C. S.* t. 125, f. 3.—*Kust.* vii. 1, t. 1, f. 1, 2, 3.—*Sow. Th.* 1, p. 337, t. 77, f. 1, 2, 3, 9, 10.—*MYTILUS LINGUA, D.* p. 322.—*W.* t. 12, f. 45. Oblong, compressed, slightly striated longitudinally, equal in width at both ends, green or brown; broad end somewhat trilobate: one of the valves longitudinally thickened near the centre within.  $1\frac{1}{2}$ . *Philippines and Moluccas.*<sup>1</sup>

L. HIAN. *Suains. Phil. Mag.* 62.—*Sow. Th.* 1, p. 388, t. 77, f. 4.—? L. ANTONII, *Kust.* vii. 1, t. 1, f. 7, 8, 9. Elongated-oblong, very thin, rather narrow, greenish; gradually attenuated and rather convex towards the tapering extremity.  $\frac{3}{4}$ ... $1\frac{1}{2}$ . *China.*

L. AUDEBARDI. *Brod. Z. P.* 1833, p. 100; *Z. T.* 1, p. 2, t. 3, f. 14.—*Desh. Lam.* 7, p. 390.—*Reeve, C. S.* t. 125, f. 1.—*Sow. Th.* 1, p. 392, t. 67, f. 5. Elongated-oblong, glabrous, pale yellow, concentrically painted with green; broader extremity somewhat square-shaped (in the dried individual), adjacent to it the valves are a little contracted, but again swell out before the final attenuation. 1. *Bay of Guayaquil.*

L. SEMEN. *Brod. Z. P.* 1833, p. 100; *Z. T.* 1, p. 2.—*Sow. Thes. Conch.* 1, p. 392, t. 67, f. 11. Ovate-oblong, thickish, flattened, whitish, very smooth and polished; broader end rounded.  $\frac{1}{2}$ ... $\frac{3}{4}$ . *W. Columbia. Resembling a melon-seed in size and appearance.*

L. TUMIDULA. *Reeve, Z. P.* 1841, p. 100; *C. S.* i. t. 125, f. 4.—*Sow. Thes. Conch.* 1, p. 393, t. 67, f. 7. Broader in proportion than any known species, thin, horny, subquadrate, of a rufous colour,

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<sup>1</sup> Compare with this the PINNA UNGUIS SEU LINGUA of Ch. f. 1675, 6, 7, termed L. CHEMNITZII by Kuster (vii. 1, t. 1, f. 7, 8, 9).

passing into olivaceous, marked with irregular somewhat radiating striæ; broader end almost trilobate; opposite extremity but little contracted.  $2\frac{1}{8} \dots 1\frac{3}{8}$ . *New Holland.* L. COMPRESSA of Reeve (*Z. P.* 1841) is only a badly preserved specimen of this species (teste Sow.)

L. OVALIS. *Reeve, Z. P.* 1841, p. 100.—*Sow. Thes. Conch.* 1, p. 393, pl. 67, f. 8. Oblong-oval, greenish, somewhat compressed, thin, rounded at the broader end; both extremities nearly alike. *Sandwich Isles.*

L. ALBIDA. *Hinds, Zool. Sulphur. Moll.* p. 71, t. 19, f. 4.—*Sow. Thes. Conch.* 1, p. 393, t. 67, f. 6. Oblong, smooth, flattened, dead white, truncated at the broader end; pedicle very short, not exceeding half the length of the shelly portion. 1. *California.*

## APPENDIX,

CONTAINING DESCRIPTIONS OF THE SHELLS DELINEATED IN THE  
PLATES, YET NOT DESCRIBED IN THE TEXT; WITH A  
SYSTEMATIC LIST OF THE ENGRAVINGS, ETC.

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On ASPERGILLUM (p. 1). A monograph of this genus has been published in the 'Illustrations Conchyliologiques' of Chenu. *A. dichotomum* has been misprinted in the note (p. 2).

*A. vaginiferum*, p. 1, t. 9, f. 23 ... *A. Novæ-Zelandiæ*, p. 2, t. 9, f. 54 ... *A. agglutinans*, p. 2, t. 10, f. 19.

On CLAVAGELLA (p. 2). See, likewise, *C. rapa* (Rang. Man. Mol.), *C. Sicula* and *C. ? angulata* (Phil. Sic. vol. 2).

*C. aperta*, p. 2, t. 9, f. 21 ... *C. elongata*, p. 2, t. 11, f. 1, 2 ... *C. lata*, p. 2, t. 11, f. 4 ... *C. Melitensis*, p. 2, t. 11, f. 3 ... *C. Australis*, p. 2, t. 9, f. 22 ... *C. Balanorum*, p. 2, t. 10, f. 21.

On FISTULANA. Not one of the specific names used by Lamarck can be retained. Spengler had previously described *clava* as *Gastrochæna mumia* in 1783, *gregata* (subsequent to Gmelin's name *T. clava*) as *Teredo nucivorus* in 1791 (published in 1792), and *lagenula* (in 1783) as *G. cymbium*.

*F. mumia* (as *clava*, p. 3, t. 11, f. 5) ... *F. cymbium* (as *lagenula*, p. 3, t. 13, f. 59).

On TEREDO. Consult the author's 'British Mollusca' (vol. 1), and Gray's paper in the Annals of Nat. H. 1851 (vol. 8), in which last the name *T. Philippii* has been proposed for the *T. navalis* of Philippi (note, p. 3), *T. denticulata* for the *T. navalis* of Möller (Grænk. Mol.) and *T. Stutchburii* for the *T. navalis* of Spengler (Skriv. Nat.). According to Petit the *T. corniformis* (p. 4) is only the tube of our *T. navalis*. The name of the latter (p. 3), which is not strictly the Linnean species, but that received as such by the earlier British conchologists, should be changed to *T. Norvagica*, Spengler (Skriv. Nat.). See, too, An. Sc. Nat. ser. 3, vol. 3.

*T. palmulata*, p. 4, t. 11, f. 13 ... *T. bipennata*, p. 4, t. 9, f. 50 ...

*T. corniformis*, p. 4, t. 9, f. 49 ... *T. nana*, p. 4, t. 11, f. 22 ...  
*T. malleolus*, p. 4, t. 11, f. 23.

On PHOLAS (p. 5). Consult the monographs of Spengler (Skriv. Nat. vol. 2, pt. 1), and Sowerby (Th. vol. ii.); see, too, Gray's list of species (Ann. Nat. 1851, vol. 8), Wieg. Arc. 1852, and Pr. Philad. vol. 4.

*P. silicula*, p. 6, t. 9, f. 58 ... *P. truncata*, p. 6, t. 9, f. 26 ...  
*P. crucigera*, p. 6, t. 11, f. 53 ... *P. Campechensis*, p. 6, t. 9, f. 44 ...  
*P. clausa*<sup>1</sup> (of Gray's MS. i.e. tablet in British Museum), p. 6, t. 11, f. 8 ... *P. acuminata*, p. 8, t. 9, f. 30 ... *P. Californica*, p. 8, t. 9, f. 43.

On GASTROCHLENA (p. 10). Consult Spengler in Dankse Viden-skabernes Selskab Skrivter, vol. ii. (1783). See, too, *G. dentifera* (Duf., An. Sc. Nat. 1840) and *G. gigantea* (Desh. Traité Elém. t. 2).

*G. Mytiloides*, p. 10, t. 9, f. 37 ... *G. truncata*, p. 10, t. 9, f. 40 ...  
*G. ovata*, p. 10, t. 9, f. 42.

*Xylophaga dorsalis*, p. 10, t. 11, f. 21 ... *X. globosa*, p. 10, t. 9, f. 51.

On SOLEN. Consult Spengler's monograph (Skriv. Nat. vol. 3, pt. 2) of the Linnean genus *Solen*, and the monograph of restricted *Solens* in the 'Illustrations Conchyliologiques.' See, too, Gould, Pr. Bost. vol. 3, Philippi in the Zeit. Mal. 1848, Dunker in the Zeit. Mal. 1850, 1852, and Proc. Philad. vol. 3.

*S. corneus*, p. 11, t. 10, f. 42 ... *S. scalprum*, p. 12, t. 11, f. 26 ...  
*S. Slounii*, p. 12, t. 11, f. 18 ... *S. Guinensis*, p. 12, t. 13, f. 28 ...  
*S. brevis*, p. 12, t. 13, f. 42 ... *S. Thuelcha*, p. 13, t. 10, f. 30 ...  
*S. ambiguus*, p. 13, t. 11, f. 17 ... *S. Dombel*, p. 13, t. 9, f. 19 ...  
*S. Javanicus*, p. 14, t. 11, f. 19 ... *S. candidus*, p. 15, t. 11, f. 29 ...  
*S. solidus*, p. 15, t. 11, f. 29 ... *S. costatus*, p. 15, t. 9, f. 28 ...  
*S. medius*, p. 15, t. 10, f. 18 ... *S. novaculina*, p. 16, t. 10, f. 7 ...  
*S. Californianus*, p. 16, t. 10, f. 4 ... *S. acutidens*, p. 17, t. 11, f. 36 ...  
*S. acuminatus*, p. 17, t. 11, f. 35.

SOLENI NIVEUS, *Han. t. 12, f. 40*.—After *S. ACINACES*, *Han. Z. P. 1843*. Linear, snow-white, about four times as broad as long, somewhat depressed, decidedly curved, abrupt and scarcely convex at the shorter end, attenuated and rounded at the other extremity; epidermis glossy, yellowish; hinge terminal, a single rounded tooth in each valve.  $\frac{2}{3}$ ...3.

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<sup>1</sup> I cannot find this name (the reference was communicated to me by the author himself) in any work of Bowdich's. The species is very like Ch. f. 862, termed *explanata* by Spengler (in Schröt. Einl.).

SOLENI CYLINDRACEUS (t. 12, f. 41), *Hanl. Z. P.* 1843, p. 101. Linear, straight, cylindraceous, moderately strong, white varied with purplish red; the epidermis slight; six times as broad as long; tip of the longer side obtusely rounded, of the shorter side abrupt and concave: hinge terminal, a projecting somewhat crescent-shaped tooth in each valve.  $\frac{1}{4}$ ...3. Between *S. linearis* and *S. brevis*. The colouring, in adult examples, is almost confined to the posterior portion.

SOLENI PHILIPPINARUM (t. 12, f. 42), *Hanl. Z. P.* 1843, p. 101. Linear, convex, thick, subarcuated, five times as broad as long, dull yellowish white, covered by a wrinkled dull yellowish olive skin; front extremity convex, hinder extremity blunt; beaks placed at the fourth fifth of the total breadth; a sharp, strong and prominent tooth in each valve. 1...5. Nearly allied to *S. ambiguus*, but more curved, and devoid of coloured rays. Its breadth is equal throughout; the umbones are much flattened.

*Glaucanome Chinensis*, p. 17, t. 10, f. 17.

GLAUCONOME RUGOSA (t. 10, f. 24).—*Reeve, Z. P.* 1844, p. 19; *I. Glauc. f. 4.*—*Desh. Vener.* 203.—*G. CHINENSIS, Del. t. 19, f. 5.* Transversely elongated-oblong, rather more than twice as broad as long, very inequilateral, subventricose, not very thin, white, or greenish, beneath a glossy greenish yellow skin, which is puckered into longitudinal wrinkles in the middle, and concentrically corrugated at the sides; ventral edge rising obliquely behind; front side tapering gradually both above and below to a blunt tip, gaping; hinder extremity unsymmetrically rounded; umbones much eroded: inside wholly white.  $1\frac{1}{2}$ ...3 $\frac{1}{2}$ . *Manilla*.

*G. CURTA, Hanl. t. 14, f. 41.*—*Reeve, Z. P.* 1844, p. 20; *I. Glauc. f. 7.*—*Desh. Vener. p. 203.* Oval, not very inequilateral, thin, subventricose; cuticle glossy asparagus-green, smooth or finely wrinkled concentrically; ventral margin convex; both ends rounded, the front one rather bluntly so, neither of them attenuated; hinder side filling two-fifths of the entire breadth; umbones eroded; inside stained with purple; teeth small; pallial sinus short.  $\frac{1}{4}$ ...1 $\frac{1}{4}$ . *Philippines*.

*Solenella Norrisii*, p. 17, t. 10, f. 8. The genus should be placed next to *Nucula*.

On PANOPÆA (p. 18). Consult the monograph by Valenciennes (*Archiv. de Musée*, vol. 1); his *P. Spengleri* (identical with our *arctica*) must resume the earlier appellation (*Norwegica*) bestowed upon it by Spengler (*Skriv. Nat.*). See, too, *P. Antarctica* and *generosa* of Gould (*Pr. Bost.* vol. 3).

*P. Zelanica*, p. 18, t. 9, f. 59 ... *P. Australis*, p. 18, t. 9, f. 24 ... *P. Norwegica* (as *arctica*, p. 18, t. 10, f. 42).

*Pholadomya candida*, p. 18, t. 9, f. 57. Middendorff refers the

*Adacna læviuscula*, *plicata*, *vitrea* and *colorata* of Eichwald's 'Fauna Caspio-Caucasica' to this genus.

On MYA (p. 19). Compare *M. alba* of Agassiz in the Neufschatel Transactions (vol. 2, pl. 1, f. 8) with *M. arenaria*. See, too, *M. præcisæ* of Gould (Pr. Bost. vol. 3, p. 215).

*M. cancellata*, p. 20, t. 13, f. 60 ... *M. semistriata*, p. 20, t. 10, f. 16.

On ANATINA (p. 20). This genus requires much emendation. However averse one may feel to the introduction of modern genera, the necessity of its dismemberment must be acknowledged by any one possessed of a tolerably large collection of Lamarckian *Anatina*. In addition to those divisions already suggested, viz. *Periploma*, *Thracia* and *Lyonsia* = *Osteodesma* (of the last of which the *A. membranacea*, p. 23, is probably a member), it is advisable to adopt the three following:—

#### NEÆRA, Gray.

*Transverse, swollen, attenuated and gaping in front, fragile, very slightly inequivalve; umbones strengthened within by a rib on the anterior side; cartilage process spatulate, in each valve with an obsolete tooth in front, and a front lateral tooth; pallial sinus very shallow.*

To this genus must be referred the *A. costata*, p. 23, and the *Corbula rostrata*, p. 46. Hinds (Z. P. 1843) has described a *N. hyalina*, *elegans*, *Gouldiana*, *Singaporensis*, *casta*, *concinna*, *didyma*, *rosea*, *Philippinensis*, *trigona*, *iridescens*, *opalina* and *lata*; to these may be added our British species *cuspidata*, *costellata*, and *abbreviata*. Forbes, also, has described (Z. P. 1843) a *N. attenuata*, and Loven (Ind. Scan. Mol.) a *N. vitrea* and *obesa*.

#### ANATINELLA, Sowerby.

*Ovate, equivalve, subequilateral, slightly beaked and subtruncated in front, rounded behind. Hinge consisting of a cartilage fixed to a spoon-shaped process in each valve, behind which are two rather elongated primary teeth; 2 lateral scars, no pallial sinus.*

The *A. Nicobarica* (*Mya angulata*, Spengl. Sk. Nat. iii.—*Anatinella* Sibbaldi, Sow. Gen.), p. 23, is the type of this group.

#### MYODORA, Gray.

*Trigonal, rounded behind, attenuated and truncate in front; one valve flat, the other convex; interior pearly; cartilage narrow, triangular, between 2 tooth-like ridges in the flatter valve, with a free sickle-shaped ossicle; pallial line sinuated; structure like *Anatina*.*

*A. brevis* (p. 24), *ovalis* (p. 25), *Pandoriformis* (p. 25), *crassa* (p. 25), and *Pandora striata* (p. 50), belong to this group. Several other

species have been described by Reeve (Z. P. 1844), and figured in his 'Conchologia Iconica.'

*Myodora brevis* (p. 24, as *Anatina b.*), t. 10, f. 18 ... *M. ovalis* (p. 25, as *Anatina o.*), t. 9, f. 53 ... *A. Pandoriformis* (p. 25, as *Anatina P.*), t. 10, f. 9 ... *M. crassa* (p. 25, as *Anatina c.*), t. 10, f. 6 ... *M. striata* (p. 50, as *Pandora s.*), t. 12, f. 12.

There can be little doubt, likewise, that *A. globulosa* (p. 20) and *A. globosa* (p. 23) are generically distinct (TUGONIA, Gray), from such typical *Anatina* as our three first species; *A. pratensis* (p. 23) and *A. Leana* (p. 24) have been separated by some, as COCHLODESMÆ, but by others have been placed in *Periploma*.

*Anatina truncata*, p. 20, t. 11, f. 24 ... *A. elliptica*, p. 23, t. 9, f. 46 ... *A. papyracea*, p. 23, t. 10, f. 12 ... *A. Leana*, p. 24, t. 9, f. 33 ... *A. elongata*, p. 24, t. 10, f. 15.

*Periploma trapezoides* (p. 20, as *Anatina t.*), t. 10, f. 32 ... *P. argentaria*, p. 21, t. 10, f. 11 ... *P. planiuscula*, p. 21, t. 10, f. 33.

PERIPIOMA OBTUSA (t. 13, f. 50), *Hantl. in List of Illustrations to Lamarck's Shells* (1842), t. 2, f. 50. Very obtusely trapeziform, outline totally devoid of angularities, very inequivalve, very fragile, dull yellowish white; very inequilateral, the sides rounded, edge of the longer posterior one obliquely and continuously united to the sub-arcuated ventral margin; anterior side very short, roughened by minute punctures, and very much narrowed by the sudden declivity of the dorsal edge; anterior slope with minute crowded concentric wrinkles, bounded posteriorly in the more convex valve by a slightly impressed radiating hollow. 1½...1¾. *W. America*.

*Thracia plicata*, p. 21, t. 10, f. 37 ... *T. phaseolina*, p. 22, t. 10, f. 35 (as *declivis*) ... *T. similis*, p. 22, t. 9, f. 52 ... *T. Conradi*, p. 22, t. 10, f. 34 ... *T. Corbuloides*, p. 22, t. 9, f. 20 ... *T. curta*, p. 22, t. 10, f. 1 ... *T. rupicola* (as *Corbula*, p. 47, t. 11, f. 32).<sup>1</sup>

*Lyonsia* (as *Osteodoma*, a misprint) *hyalina*, p. 24, t. 10, f. 10 ... *L. coruscans*, Scacchi (p. 25, as *O. elongata*), t. 13, f. 27 ... *L.* (p. 25, as *O.*) *cuneata*, t. 10, f. 14.

*Lutraria elongata*, p. 27, t. 10, f. 26 ... *L. Tellinoides*, p. 27, t. 11, f. 33 ... *L. Cottardi*, p. 28, t. 9, f. 56.

On LUTRARIA (p. 26). Consult Reeve's monograph in his 'Conchologia Iconica,' and see, too, Proc. Bost. iii. and Zeit. Mal. 1849, 1851. Examine, also, *Lavignon Petiliana* and *Lavalleana* of D'Orbigny's Cuba Shells. Many of our species might with equal (or

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<sup>1</sup> *Anatina distorta*, p. 23, must, likewise, be included in this genus, and, perchance, in this species.



greater) propriety have been located in *Maetra*; *L. squamosa* must be set apart as belonging to the excellent genus

#### LEPTON, Turton.

"Shell flat, nearly orbicular, equivalve, inequilateral, a little open at the sides. Hinge of one valve with a single tooth and a transverse linear lateral one each side; of the other valve with a cavity in the middle and a transverse deeply cloven lateral tooth each side, the segments of which divaricate from the beak. Ligament internal."

*L. squamosum* (p. 28, as *Lutraria* s.), t. 9, f. 47. See, too, *L. fabagella*, Conrad (Am. Mar. C. t. 11, f. 3), *L. nitidum*, Turton (Dith. Brit.) and *L. Clarkiæ* (Brit. Mol.).

On *MAETRA* (p. 28). Consult the monographs by Spengler (Skriv. Nat. vol. 5, pt. 2) and Reeve (Conch. Icon.). See, too, Zeit. Mal. 1848, 1849, 1850, 1851, Wieg. Arch. 1837, Proc. Bost. vol. 3, Gould's Pacific Shells, and J. Conch. vols. 3, 4.

On *Maetra lactea* (p. 31), *striatula* (p. 29) and *ovalina* (p. 31). The first (described and delineated from Poli) is only a variety of *M. subtruncata* (p. 32); the second is not the species so named by Linnæus (*Ipsa* Lin.) and must consequently assume the earliest correct published name *M. alata* (Spengler, Skr. Nat. Selsk. 1802); the third, according to D'Orbigny, is identical with *M. fragilis* of Chemnitz (*Ch. f.* 235).

*Maetra maculosa*, p. 29, t. 11, f. 27 ... *M. fasciata*, p. 30, t. 10, f. 39 ... *M. rufescens*, p. 30, t. 10, f. 20 ... *M. triangularis*, p. 31, t. 10, f. 40 ... *M. lactea*, p. 31, t. 10, f. 41 ... *M. ovalina*, p. 31, t. 10, f. 23 ... *M. alba*, p. 31, t. 10, f. 27 ... *M. squalida*, p. 31, t. 11, f. 30 ... *M. Brasiliana*, p. 31, t. 10, f. 60 ... *M. Lisor*, p. 32, t. 11, f. 54, 55 ... *M. truncata*, p. 32, t. 9, f. 1 ... *M. Australis*, p. 32, t. 10, f. 36 ... *M. elegans*, p. 33, t. 11, f. 16 ... *M. vitrea*, p. 33, t. 10, f. 28 ... *M. exoleta*, p. 33, t. 11, f. 51 ... *M. elongata*, p. 33, t. 10, f. 2 ... *M. Saulia*, p. 34, t. 13, f. 24 ... *M. (!?) nucleus*, p. 34, t. 12, f. 11 ... *M. (Mulinia) bicolor*, p. 34, t. 10, f. 31 ... *M. (Mulinia) lateralis*, p. 34, t. 10, f. 25 ... *M. (Mulinia) Donaciformis*, p. 34, t. 10, f. 29 ... *M. (Mulinia) Byronensis*, p. 35, t. 10, f. 38.

*Gnathodon cuneatus*, p. 35, t. 10, f. 22. See, likewise, *G. rostratus*, *parvus*, and *trigonus* of Petit (J. Conch. vol. 4).

*Crassatella Kingicola*, p. 35, t. 12, f. 17 ... *C. Donacina*, p. 36, t. 10, f. 58 ... *C. sulcata*, p. 36, t. 12, f. 22 ... *C. rostrata*, p. 36, t. 9, f. 31 ... *C. subradiata*, p. 36, t. 9, f. 12, and t. 12, f. 14 ... *C. castanea*, p. 36, t. 12, f. 23 ... *C. decipiens*, p. 36, t. 11, f. 9 ... *C. pulchra*, p. 36, t. 12, f. 18 ... *C. lapidea*, p. 36, t. 10, f. 59 ... *C. jubar*, p. 37, t. 12, f. 25 ... *C. Corbuloides*, p. 37, t. 12, f. 15 ... *C. triquetra*,

p. 37, t. 10, f. 54 ... *C. ornata*, p. 37, t. 12, f. 18 ... *C. undulata*, p. 37, t. 12, f. 24 ... *C. gibbosa*, p. 37, t. 12, f. 16 ... *C. radiata*, p. 37, t. 11, f. 15.

On MESODESMA. Consult Reeve's monograph in the 'Conchologia Iconica.'

*Mesodesma Donacium*, p. 38, t. 10, f. 56 ... *M. complanatum*, p. 38, t. 10, f. 55 ... *M. Erycinæum*, p. 38, t. 12, f. 26 ... *M. Donacillum*, p. 39, t. 11, f. 39 ... *M. corneum*, p. 39, t. 11, f. 40 ... *M. glabellum*, p. 39, t. 11, f. 6 ... *M. Solenoide*, p. 39, t. 10, f. 3 ... *M. arctatum*, p. 39, t. 9, f. 55.

MESODESMA PLANUM (t. 12, f. 19), *Hanl. Z. P.* 1843, p. 102.—*Reeve, I. Mes. f.* 16. Ovate-sublenticular, transverse, very compressed, inequilateral, rounded at each extremity, whitish under a horn-coloured epidermis, smooth; beaks acute, elevated; ventral edge arcuated; cartilage-pit narrow.  $\frac{5}{4}$ ...1. The teeth are obtuse; the lateral ones short and approximate. From the little convexity of the dorsal edges, the beaks appear extremely angulated.

MESODESMA TRIQUETRUM (t. 12, f. 20), *Hanl. Z. P.* 1843, p. 101.—*Reeve, I. Mes. f.* 28. Obliquely triangular, very inequilateral, extremely thick, swollen, smoothish, dirty white; produced and somewhat acuminate and beaked in front; short and rounded behind; anterior edge sloping; ventral margin arcuated; anterior slope depressed; the cartilage-pit visible externally between the distant beaks; lateral teeth large and strong.  $\frac{7}{4}$ ...1. *Van Dieman's Land.* The cardinal tooth is bifid in the left valve.

*Erycina Cardioides*, p. 40, t. 10, f. 57.

*Ungulina oblonga*, p. 40, t. 10, f. 44.

*Solemya Australis*, p. 41, t. 11, f. 25.

*Amphidesma solidum*, p. 43, t. 12, f. 32 ... *A. corrugatum*, p. 44, t. 12, f. 21 ... *A. ruptum*, p. 44, t. 12, f. 50 ... *A. læve*, p. 44, t. 12, f. 10 ... *A. purpurascens*, p. 44, t. 12, f. 45 ... *A. formosum*, p. 44, t. 12, f. 48 ... *A. pallidum*, p. 44, t. 12, f. 44 ... *A. roscum*, p. 44, t. 12, f. 35 ... *A. lenticulare*, p. 44, t. 12, f. 49 ... *A. rubrolineatum*, p. 44, t. 12, f. 51 ... *A. decisum*, p. 44, t. 12, f. 52 ... *A. pulchrum*, p. 45, t. 12, f. 6 ... *A. punctatum*, p. 45, t. 12, f. 46.

AMPHIDESMA PROXIMUM (t. 12, f. 5, as *A. CORRUGATUM*), *Adams, Shells Pan. p.* 2, from *Ann. Lyc. N. York, vol.* 5 (1852), p. 513.—*Reeve, Ic. Amp. f.* 20. Transversely suborbicular, bluntly subangular in front, equilateral, thick, convex or subventricose, uniform white under a very thin somewhat olivaceous grey epidermis, smooth near the umbones, elsewhere with close concentric wrinkles and densely disposed indistinct radiating striolæ; ventral edge much arcuated; dorsal slopes decided, the front area retuse, ligamental edge convex; flexure slight; beaks acute, prominent, inclined; lunule small,

lanceolate; inside ochraceous yellow. 2½. *Mexico. The epidermis is usually ochraceous in front.*

AMPHIDESMA ZEBUENSE (t. 12, f. 7), *Hanl. Z. P.* 1844.—*Reeve, I. Amp. f.* 25.—SEMELE GRATIOSA, *Adams, teste Reeve*. Obliquely ovate, solid, very inequilateral, slightly convex, whitish, with pale red rays, and short crowded concentric lamellæ, whose intervals are usually divided by a concentric raised stria; anterior side short, rounded; hinder margin incurved; ventral edge strongly arcuated; inside white, with two red rays at the umbones. 1½...2. *Philippines. The colouring matter seems deposited on the lamellæ only. The lunule is rather large for the genus.*

AMPHIDESMA RADIATUM (t. 12, f. 8, as *A. Australe*), *Say, J. Ac. Philad.* vol. 5 (1825), p. 220.—*A. SUBTRUNCATUM, Reeve (as of Sow.), Ic. Amp. f.* 11.—*Sow. Spec. Con. pt.* 2,<sup>1</sup> *Amp. f.* 3. Transversely suborbicular, subequilateral, bluntly subangulated and flexuous in front, rounded behind, not solid, convex or subventricose, yellowish white, with numerous narrow rays of ruddy flesh-colour on the disk, and short waved lines of the same hue on the two slopes, rough with concentric membranaceous wrinkles, and almost imperceptibly minute radiating striolæ; slope of the dorsal edges decided, subequal; inside yellow. 1½. *Jamaica. This shell was figured as Australe, having been found so named in a collection arranged by Mr. Sowerby. It does not agree, however, with the type, although not unlike the drawing in the 'Conchological Illustrations.' It agrees fairly with the description of A. JAYANUM in Adams' Jamaica Shells (Proc. Bost. ii. 1845).*

AMPHIDESMA CARNICOLOR (t. 12, f. 28), *Hanl. Z. P.* 1844, p. 162.—*Reeve, I. Amp. f.* 6. Suborbicular, convex or subventricose, rather thin, subequilateral, pink or flesh-coloured without, orange within, concentrically lamellated throughout; lamellæ frequent, membranaceous, serrated at the edge, their intervals set with most crowded minute radiating wrinkles; ventral edge rounded, entire; both dorsal edges short, straightish, and about equally sloping; anterior slope impressed. 1...1. *Philippines.*

AMPHIDESMA SCABRUM (t. 13, f. 9), *Hanl. Z. P.* 1844, p. 17.—*Reeve, I. Amp. f.* 33, *probably*. Obovate, convex, solid, subequilateral, white, with chestnut-red linear rays, and short thin crowded lamellæ, whose intervals are most minutely striated lengthways; anterior side subangulated, hinder-side rounded; ventral edge arcuated, rising in front; inside pale orange, stained with purplish red on the cartilage-pit and beneath the lunule. 2...2½. *Philippines.*

<sup>1</sup> The unfinished part was only published in December, 1855. The numerals upon the plates do not correspond with the references in the text.

On AMPHIDESMA (p. 41) Reeve has published a monograph of *Amphidesma* proper, in his 'Conchologia Iconica.' Lamarck (whom we followed in youthful confidence) has evidently, under this appellation, confused together several well-defined groups. The *A. Boysii*, *tenuis* and *prismaticum* have very properly been separated as *SYNOSMYÆ*; *A. albellum*, according to Recluz, is identical with *Lutraria Cottardi* (p. 28 = *A. Siculum*, Sow.); the type of *A. physoides* (p. 43) was a *Kellia* (I saw it in the French Museum in 1843), but, according to Recluz, it is now destroyed; of *A. nucleola* a *Kellia* of the section *Poronia* (teste Recluz an Australian! species), of *A. purpurascens*, according to the same author, who has confirmed several of our conjectures, *Ervilia nitens*.

#### KELLIA, Turton.

"Somewhat globular, equivalve, closed. Hinge with two approximate teeth and a remote lateral tooth in one valve, and a concave tooth and remote lateral one in the other. Ligament internal" (Turton).

*K. Geoffroyi* (as *Erycina G.* p. 40, t. 12, f. 1) ... *K. rubra*, p. 43, t. 9, f. 48. Our *Mesodesma Cycladea*, p. 38, is also a member of this genus,

#### ERVILIA, Turton.

"Oval, equivalve, inequilateral, closed. Hinge with a single erect tooth closing between two small divergent ones in the opposite valve; lateral teeth none. Ligament none."

*E. nitens*, p. 43, t. 9, f. 6. The *Donax castanea* of the earlier British writers (Turt. Dith. t. 10, f. 13, as *Capsa c.*) is, also, a member of this genus.

CUMINGIA COARCTATA (t. 12, f. 37), Sow. Z. P. 1833, p. 34: *G.*—Reeve, C. S. t. 49, f. 4. Resembling *C. Tellinoides*, but not so cuneiform in front, with the laminar wrinkles further apart and usually more elevated, and their intervals with scarcely perceptible radiating striulæ.  $\frac{1}{10}$ . Mexico. Seems a variety of *C. lamellosa*.

CUMINGIA TELLINOIDES (t. 12, f. 38).—MACTRA T. Conr. J. Philad. 6, p. 258; Am. Mar. C. t. 14, f. 2.—C. T. Gould, Mas. p. 50, f. 36. Oval-cuneiform, equilateral or nearly so, fragile, compressed and wedge-shaped in front, semi-oval and decidedly convex behind, dull uniform white, with close concentric laminar wrinkles, whose intervals are unsculptured; ventral edge incurved in front, subarcuated behind; dorsal areas impressed.  $\frac{1}{16}$ ... $\frac{1}{16}$ . N. America.

On CORBULA (p. 45). Reeve has published a monograph of this genus (Conch. Icon.). Consult, likewise, D'Orbigny's Cuba Shells, Zeit. Mal. 1844, 1846, 1848, Annals of the Lyceum of N. York, vol. 5, the J. Conch. vol. 1 (for *Eucharis elliptica*), and G. Adams' 'Contributions to Conchology.'

*Corbula sulcata*, p. 45, t. 13, f. 48 ... *C. Tahitensis*, p. 46, t. 12, f. 30 ... *C. porcina*, p. 46, t. 12, f. 47 ... *C. bicarinata*, p. 46, t. 12, f. 31 ... *C. rostrata*, p. 46, t. 10, f. 53 ... *C. contracta*, p. 47, t. 9, f. 34 ... *C. Mediterranea*, p. 47, t. 12, f. 43 ... *C. biradiata*, p. 47, t. 10, f. 51 ... *C. ovulata*, p. 47, t. 10, f. 52 ... *C. Binghami*, p. 47, t. 12, f. 4.

CORBULA FASCIATA (t. 12, f. 27), *Hinds, Z. P.* 1843, p. 59.—*Reeve, I. Cor. f.* 12. Transversely oblong, subequilateral, somewhat attenuated at both extremities, rounded at one end, bluntly angulated at the other (towards which the beaks incline); both valves smooth, or nearly so, thin, subventricose, shining, usually with 3 broad rays of reddish or chocolate-brown on an ochraceous ground, sometimes wholly yellowish white or rufous-brown; ventral edge partially arcuated.  $\frac{1}{2}$ . *Philippines*. In the rufous variety (here figured) the umbonal ridge is subcarinated, and the central ray quite obsolete.

CORBULA CRASSA (t. 12, f. 29), *Hinds, Z. P.* 1843, p. 55; *Sulp. p.* 67, t. 20, f. 1, 2, 3.—*Reeve, I. Cor. f.* 8. Peaked-oval, dorsally angular, solid, scarcely inequilateral, wholly white; umbones smooth, elsewhere lyrate with numerous concentric ridges, which are coarse, except on the concave anterior slope, which latter is defined by an angle; anterior extremity narrowed, and obliquely biangulated; posterior end rounded; ventral edge of the larger valve overlapping the other in front; beaks acute, inclined.  $\frac{1}{4}$ ... $\frac{1}{2}$ . *Malacca; Philippines*. In aged specimens the ventral increase is more conspicuous posteriorly. A minute decussation between the ridges is perceptible with a strong glass. The inside in my examples is wholly white; it is said by *Hinds* to be fuscous.

CORBULA ROSEA (t. 12, f. 33), *Brown, Il. C. B.* 105, t. 42, f. 2.—*Loven, Mol. Scan.* 49.—*Br. Mol.* 1, p. 185, t. 9, f. 13, 4. Oval-subtrigonal, subequivalve, subequilateral, subventricose, attenuated at each extremity, rounded at one end obtusely, and subbiangulately pointed at the other, subarcuated ventrally; glossy, fulvous, with a short dark roseate streak diverging from the umbo on both sides in each valve. Smaller valve smooth; larger valve simply and closely grooved concentrically, chiefly so near the margin: umbonal ridge obsolete. Nearly  $\frac{1}{2}$ . *N. Europe*.

CORBULA PYGMEA (t. 12, f. 34). Oblong, attenuated and obliquely truncated in front, uniformly whitish both within and without, everywhere decussated by densely disposed concentric rugiform lyre and

most minute crowded raised radiating lines; valves very unequal in size, the larger being produced in front and at the anterior ventral margin, the umbones nearly even; the smaller valve equilateral, its umbonal ridge more sharply angular, and the area before it more decidedly concave than in the other valve. ‡.

*CORBULA QUADRATA* (t. 12, f. 36), *Hinds, Z. P.* 1843, p. 57.—*Reeve, I. Cor. f.* 40. Transversely subquadrate, bluntly biangulated in front, very short and rounded behind, very prominent at the oblique and broadish umbones, very inequilateral, whitish both within and without, concentrically wrinkled, granular; umbonal ridge arcuated and prominently carinated, the area before it concave; teeth slender, oblique. ‡. *W. Indies.*

*CORBULA TRIGONA* (t. 12, f. 39), *Hinds, Z. P.* 1843, p. 58.—*Reeve, I. Cor. f.* 22. Small, oval-subtrigonal, subinequilateral, thickish, subventricose; both valves smooth, both within and without whitish (more rarely brown, or with a single obsolete band), subventrally angulated on one side, subangulately rounded on the other; ventral edge arcuated and projecting in the larger valve. ‡. *Senegal.*

*CORBULA NIMBOSA* (t. 13, f. 58), *Hindl.* (not *POTAMOMYA* n. *Hinds, Z. P.* 1843, p. 59 = *C. N. Reeve, Ic. Corb. f.* 31 = *MYA LABIATA, Maton, Lin. Tr.*).—*POTAMOMYA, Sow. Man. f.* 498, 9.—*C. L. Reeve, Ic. Corb. f.* 28. Oval-subtriangular, subequilateral, rounded behind, ventrally angulated in front, nearly smooth, solid, subventricose, dirty (or reddish) white under a horny ochraceous epidermis; inside white. Valves very unequal, especially at the ventral margin, which in the larger valve is solid arcuated and much projecting beyond the other; its umbo, likewise, is the more prominent. Neither lunule, lozenge, nor carinated umbonal ridge. ‡...‡. *Singapore. The epidermis of the smaller valve is apt to assume a clouded aspect; there are some very indistinct radiating striolæ on the other valve.*

*Myochama Anomioides*, p. 48, t. 12, f. 3.

*Pandora oblonga*, p. 49, t. 10, f. 46 ... *P. depressa*, p. 49, t. 10, f. 47 ... *P. glacialis*, p. 49, t. 10, f. 48 ... *P. flexuosa*, p. 49, t. 10, f. 49 ... *P. unguiculus*, p. 49, t. 10, f. 50 ... *P. trilineata*, p. 49, t. 9, f. 32 ... *P. Ceylonica*, p. 50, t. 10, f. 45.

On *SAXICAVA* (p. 50). Conrad has subsequently referred his *S. Carditoides* and *Californica* (p. 51) to the genus *Petricola*. *S. pholadis* (p. 51) is a variety of *rugosa* (of which *S. distorta*, Say, is a synonym): the types of *S. Australis* and its var. *Veneriformis* (p. 52) remind one of *Cardita* (I did not see their hinges). The genus *Hiatella* (p. 150) is redundant; its species must be transferred hither. *S. costata* of Menke's 'Synopsis' is not a true *Saxicava*: *S. macrodon* (Phil. in Zeit. Mal. 1851) and *S. legumen* (Desh. Rev. Cuv. 1839) should be examined.

*Saxicava Pholadis*, p. 50, t. 9, f. 5 ... *S. Guerini*, p. 51, t. 12, f. 2 ... *S. Carditoides*, p. 51, t. 12, f. 53 ... *S. Californica*, p. 51, t. 12, f. 54.

On PETRICOLA (p. 51). Sowerby, in his 'Thesaurus,' has published a monograph of this genus. Our *P. bidentata* (p. 54) should be transferred to *Montacuta*, adopted and defined at p. 40.

*Petricola semilamellata*, p. 52, t. 11, f. 41 ... *P. striata*, p. 52, t. 11, f. 42 ... *P. costellata*, p. 52, t. 11, f. 43 ... *P. Roccellaria*, p. 52, t. 11, f. 44 ... *P. ruperella*, p. 52, t. 11, f. 45 ... *P. Pholadiformis*, p. 52, t. 13, f. 49 ... *P. dactylus*, p. 53, t. 13, f. 26.

*Venerupis exotica*, p. 54, t. 9, f. 29 ... *V. crenata*, p. 55, t. 12, f. 58 ... *V. Lajonkairii*, p. 55, t. 12, f. 55. Consult the monograph in Sow. Th. vol. 2.

*Sanguinolaria Nuttallii*, p. 56, t. 12, f. 56 ... *S. Californiana*, p. 56, t. 12, f. 57 ... *S. livida*, p. 57, t. 11, f. 52.

On PSAMMOTEA and PSAMMOBIA. The former genus should be suppressed, since its members, when in perfect condition, exhibit a very different hinge from that assigned to them in the definition. *P. violacea*, *zonalis* and *rosea* may be transferred to *Psammobia*, *P. candida* and *P. Tarentina* (the figure of the latter in Delessert is marvellously like *Petricola ochroleuca*, p. 52, a *Tellina* in our opinion, which must resume its Linnean name *fragilis*) to *Tellina*; *P. pellucida* is the same as *T. lanceolata*, p. 67, and *P. Donacina* (judging from the cited figure) seems a *Donax*. *Psammobia Cayennensis*, p. 58, is a true *Tellina*; *Tellinides striata*, p. 74, perchance, a *Psammobia*. For additional *Psammobia* consult Proc. Bost. vols. 2, 3, Zeit. Mal. 1846, 1848, Gray's Appendix to Dieffenbach's New Zealand, Philippi's 'Abbildungen, &c. Conchylien,' and, with great caution, Adams's Jamaica Shells.

*Psammobia maculosa*, p. 57, t. 11, f. 28 ... *P. elongata*, p. 57, t. 11, f. 46 ... *P. squamosa*, p. 57, t. 11, f. 47 ... *P. Cayennensis*, p. 58, t. 11, f. 48 ... *P. Tellinella*, p. 58, t. 11, f. 11 ... *P. fragilis*, p. 58, t. 11, f. 49 ... *P. Galatea*, p. 58, t. 13, f. 44 ... *P. violacea*, p. 59, t. 11, f. 20 ... *P. costata*, p. 59, t. 11, f. 12 ... *P. lineolata*, p. 59, t. 14, f. 1 ... *P. Pacifica*, p. 60, t. 12, f. 59.

*Galeomma Turtoni*, p. 59, t. 9, f. 41 ... *G. aurantium* (as *Psammobia a.* p. 58), t. 9, f. 25.

*Psammotæa violacea*, p. 60, t. 12, f. 60 ... *P. zonalis*, p. 60, t. 11, f. 50 ... *P. pellucida*, p. 60, t. 14, f. 26 ... *P. Tarentina*, p. 60, t. 11, f. 56 ... *P. Donacina*, p. 60, t. 11, f. 57.

On TELLINA (p. 61). The following less generally recognised Lamarckian species have been noticed or delineated in my monograph of the genus: *T. crucigera* (p. 61), f. 78, 79, 178; *T. rosea* (p. 63), f. 218 (as *Madagascariensis*); *T. elliptica* (p. 63), as = *acuta* (p. 67);

*T. scalaris* (p. 65), as a variety of *staurella*; *T. capsoides* (p. 70), f. 185; *T. decussata* (p. 70), f. 184; *T. umbonella* (p. 70), f. 18; *T. nymphalis* (p. 70), f. 196.

For additional species consult my monograph in the first volume of Sowerby's 'Thesaurus.' The principal subsequent additions have appeared in Gould's Pacific Shells (Bost. J.), the Journ. Conch. vol. 3, the Zeit. Mal. 1845, 1846, 1847, 1848, 1851, the Proc. Bost. vols. 2, 3, Dunker's Guinea Shells, and (by Deshayes) in the late volume of the Z. P.

*Tellina semizonalis*, p. 61, t. 11, f. 58 ... *T. staurella*, p. 61, t. 11, f. 31 ... *T. sulphurea*, p. 62, t. 9, f. 9 ... *T. margaritina*, p. 63, t. 13, f. 1 ... *T. albinella*, p. 63, t. 14, f. 3 ... *T. nitida*, p. 64, t. 14, f. 4 ... *T. Psammotella*, p. 65, t. 14, f. 6 ... *T. Llantivryi*, p. 65, t. 14, f. 5 ... *T. Oudardi*, p. 65, t. 14, f. 8 ... *T. clathrata*, p. 65, t. 14, f. 12 ... *T. polita*, p. 65, t. 9, f. 39 ... *T. tenera*, p. 65, t. 9, f. 38 ... *T. tenta*, p. 65, t. 14, f. 10 ... *T. alternata*, p. 66, t. 14, f. 9 ... *T. pulcherrima*, p. 67, t. 11, f. 14 ... *T. pristis*, p. 69, t. 9, f. 4 ... *T. Brasiliana*, p. 70, t. 9, f. 3 ... *T. deltoidalis*, p. 70, t. 13, f. 3 ... *T. sexradiata*, p. 71, t. 11, f. 37 ... *T. ostracea*, p. 71, t. 14, f. 11 ... *T. lata*, p. 71, t. 14, f. 13 ... *T. nasuta*, p. 71, t. 14, f. 7 ... *T. lineata*, p. 72, t. 14, f. 2 ... *T. balaustina*, p. 72, t. 9, f. 17 ... *T. Burneti*, p. 72, t. 13, f. 51 ... *T. striata* of Chemnitz (as *Donax Martinicensis*, p. 84, t. 13, f. 10).

*TELLINA RASTELLUM* (t. 14, f. 14), *Hanl. Z. P.* 1844, p. 59; in *Sow. Th.* 1, p. 225, t. 64, f. 231, and t. 65, f. 242.—*T. PHILIPPIN*, *Anton in Phil. N. C.* Elongated, rather convex, equilateral, solid, yellowish, rayed with pink, squamular in front, grooved behind; the scales erect, lamellar, arranged in continuity with the concentric sulci; ventral edge scarcely at all convex; the dorsal edge hardly sloping on either side, straight or subretuse in front, barely convex behind; anterior side attenuated, somewhat beaked, obliquely biangulated; hinder extremity rounded; ligament and umbonal ridge conspicuous; inside whitish, stained with orange on either side of the umbones; lateral teeth 2 in each valve, strong, subequidistant.  $1\frac{1}{2}$ ...3 $\frac{1}{2}$ . Zanzibar.

*TELLINA PHILIPPINARUM* (t. 14, f. 18), *Hanl. Z. P.* 1844, p. 69; in *Sow. Th.* 1, p. 279, t. 57, f. 55, 6. Ovate, or subovate, somewhat wedge-shaped in front, thin, subequilateral, white within and without, glossy, with very fine concentric striæ; ventral edge arched, rising in front; hinder dorsal edge short, straight, somewhat sloping; hinder extremity blunt; ligament slightly prominent; hinge with a posterior subapproximate lateral tooth, which is almost obsolete in young examples.  $\frac{7}{8}$ ...1. Philippines. The umbonal region is usually of a flesh-colour or tawny-orange in aged specimens.



On TELLINIDES (p. 73). Additional species may be found in my monograph of Tellina (Sow. Th. 1).

*Tellinides truncatulus*, p. 73, t. 13, f. 54 ... *T. opalinus*, var. *rosea*, p. 73, t. 13, f. 57 ... *T. ovalis*, p. 73, t. 13, f. 56 ... *T. acuminatus*, p. 73, t. 13, f. 53 ... *T. emarginatus*, p. 74, t. 13, f. 55 ... *T. purpureus*, p. 74, t. 9, f. 18.

*Corbis Soverbii*, p. 75, t. 14, f. 15.

On LUCINA (p. 75). The locality of *L. squamosa* (p. 76), and the reference to Poli for a figure of it, are errors not to be found in Lamarck, but only in the edition here translated. The drawing (E. t. 285, f. 3) originally cited as illustrative exhibits, to my fancy, the *L. occidentalis* of Reeve (= *imbricatula*, Adams), a native of the W. Indies. *L. reticulata* (p. 76) is said by Recluz, who asserts that he has examined the type, to be an *Artemis*; the figures referred to by Lamarck do not represent (as declared in the note) *T. crassa*, but *Amphidesma reticulatum*. For the synonymy of *L. pecten* (p. 77), *Tel. reticulata*, Poli, and *L. r.* Payr. p. 43, should be substituted. Delessert's representation of *L. digitalis* (p. 77) was the original of the figure in this work; it bears little resemblance to the real *L. digitaria* of Linnæus. For additional species consult Reeve's monograph (Conch. Ic.); see, too, Adams' 'Contributions to Conchology,' Proc. Bost. 2, 3, Zeit. Mal. 1847, 8, 9, Proc. Philad. 3, J. Conch. 1, 3, D'Orbigny's Cuba Shells, Dunker's Guinea Shells, &c. The genus requires division.

*Lucina columbella*, p. 77, t. 9, f. 2 ... *L. pecten*, p. 77, t. 14, f. 17 ... *L. pecten* of Delessert (? = *fibula* of Reeve), t. 13, f. 4 ... *L. lutea*, p. 77, t. 13, f. 5 ... *L. digitalis*, p. 77, t. 13, f. 6 ... *L. globularis*, p. 77, t. 14, f. 16 ... *L. rugifera*, p. 79, t. 9, f. 45.

LUCINA PHILIPPINARUM (t. 12, f. 42), Hanley.—Reeve, I. Luc. f. 18. Suborbicular, inequilateral, thickish, ventricose, dull white under a dull ochraceous-yellow epidermis, encircled throughout with rather distant lamellar ridges, whose intervals are unsculptured; a broad, but very indistinctly defined, anterior slope or area; the posterior area only indicated by a slight retusion of surface; ligamental edge subhorizontal; umbones prominent, eroded; ligament large, depressed; inside white; hinge-margin edentulous. 3. *Philippines; Mergui*.

On DONAX (p. 79). *D. vittata* (p. 81) is the *Tel. trifasciata* of Linnæus (Ipsa Lin. t. 1, f. 5); the locality is erroneous, and the synonym *D. sexradiata* should be transferred to *D. radians*; *D. Lessoni* (p. 81) is identical with *Cyth. planulata*; *D. pulchella* (p. 86) has been subsequently termed *D. Powisiana* by Recluz, in the Rev. Cuv.; *D. candida*, teste Mörch, is *Mesodesma striatum*. For additional species see Reeve's monograph (Conch. Ic.), Zeit. Mal. 1847, 1848,

1851, Proc. Bost. 3, 4, Krauss' 'Sud-Afrikanischen Conchylien,' J. Philad. n. s. 1, Dunker's Guinea Shells, &c.

*Donax compressa*, p. 79, t. 14, f. 22 ... *D. deltoides*, p. 80, t. 14, f. 23 ... *D. columbella*, p. 80, t. 13, f. 7 ... *D. Australis*, p. 80, t. 14, f. 29 ... *D. equilatera*, p. 81, t. 14, f. 33 ... *D. striata*, p. 82, t. 14, f. 32 ... *L. Cayennensis*, p. 82, t. 13, f. 8 ... *D. elongata*, p. 82, t. 13, f. 47 ... *D. Cardioides*, p. 82, t. 13, f. 9 ... *D. fabagella*, p. 83, t. 9, f. 35 ... *D. dentifera*, p. 84, t. 14, f. 20 ... *D. carinata*, p. 84, t. 14, f. 28 ... *D. punctato-striata*, p. 84, t. 14, f. 24 ... *D. semisulcata*, p. 85, t. 14, f. 25 ... *D. variabilis*, p. 85, t. 14, f. 31 ... *D. fossor*, p. 85, t. 9, f. 36 ... *D. Californica*, p. 85, t. 14, f. 30 ... *D. pulchella*, p. 86, t. 14, f. 19 ... *D. trunculus* (p. 87, as *Capsa* t.), t. 11, f. 38.

**DONAX RADIATA**, VAR. (t. 14, f. 21), *Valenc. in Humboldt and Bonpl. Zool.* Wedge-shaped, very inequilateral, broad and obliquely subtruncated in front, peculiarly attenuated behind, strong, more or less ventricose, yellowish, sometimes rayed with liver-colour; sculptured throughout (except immediately adjacent to the dorsal edges, where in front it is densely waved with most minute subconcentric flexuous scratches, and behind is wholly smooth) with densely packed scarcely raised radiating riblets, the narrow sulci between which are very finely cancellated; extremities rounded: umbonal ridge rounded; inside stained with dark purple; ventral edge coarsely denticulated, subarcuated in the middle; lateral teeth strong.  $\frac{1}{4}$ ... $\frac{3}{4}$ . *Peru?* Allied to *D. obesula* of Reeve, but distinct from any in his monograph.

**DONAX VENERIFORMIS** (t. 14, f. 27), *Hanley, list of plates.*

**DONAX OVALINA**, *Reeve, I. Don. f. 17 (as of Desh. Z. P. 1854).* Obovate, subinequilateral, thickish, a little compressed, ochraceous-yellow, with (for the most part) two abbreviated purplish rays (one subcentral, one anterior), wrinkled with somewhat coarse concentric lines of growth, otherwise smooth; ventral edge entire, much arcuated: hinder side rather the longer, attenuated and symmetrically rounded at the extremity; no umbonal ridge or flexure; beaks acute; the ligamental and hinder dorsal margins meeting at an obtuse angle: inside whitish; a bifid primary tooth inserted between two (one very fragile) in the opposite valve. 1. *Pacific.* I named this shell on the authority of the presumed type in the Museum at Paris, but it does not adequately suit the description. Lamarck's shell was probably allied to (if not) the *Venus semicancellata*.

On **CAPSA**. *C. complanata* (p. 86), *ringens* (p. 86), and *trunculus* (p. 87) should rather be regarded as aberrant *Donaces* than as members of this genus.

*Capsa Brasiliensis*, p. 86, t. 13, f. 52 ... *C. altior*, p. 86, t. 14, f. 34.

On *CRASSINA* (p. 87). Consult Sowerby's monograph (Th. Con. 2) and Proc. Philad. 3. The name *ASTARTE* has priority.

*Mactra Veneriformis* (W. S. t. 1, Mac. f. 8) is the young of *C. lactea* (p. 88); *A. Cyprinoides* of Duval, and *A. corrugata* of Brown, are synonyms of *Arctica* (p. 89).

*Crassina latisulca*, p. 87, t. 14, f. 35 ... *C. incrassata*, p. 88, t. 14, f. 39 ... *C. castanea*, p. 88, t. 9, f. 27.

*CRASSINA ELLIPTICA* \* (t. 14, f. 36), *Brown, Il. C. B.* 96, pl. 88, f. 3.—*C. OVATA*, *Brown, Il. C. B.*—*C. SULCATA*, *Nils. N. A. Holm.* 1822.—*ASTARTE SEMISULCATA*, *Phil. N. C.* 2, p. 57, *Ast. t.* 1, f. 10.—*A. E. Br. Mol.* 1, p. 459, t. 30, f. 8.—*Sow. Th.* 2, p. 779, t. 167, f. 4. Elliptically or ovately subcordate, compressed, much produced and obtusely (yet not broadly) biangulated in front, convex or subarcuated ventrally, rufous (more rarely olivaceous) brown, fulvous at the umbones, with concentric striolæ, and more or less depressed and rounded concentric ribs, which latter are moderately distant, at least as broad as their intervals, and obsolete beyond the umbonal ridge, and near the internally simple ventral margin: beaks inclined, at one-third the distance from the rounded hinder extremity: scars large.  $1\frac{1}{4}$ ... $\frac{3}{4}$ . *Scotland*.

*CRASSINA BANKSII*.—*NICANIA B. Leach, Voy. Ross.*—*ASTARTE B. Beech, Z. t.* 44, f. 10 (*well*).—*Sow. Th.* 2, p. 781, t. 147, f. 8 (*not so well*). Oval-subtriangular, equilateral or nearly so, moderately thick, only subventricose but swollen at the umbones, covered with a glossy brownish yellow cuticle, finely striated concentrically; ventral edge entire, arcuated behind, straighter in front; dorsal slopes decided, nearly equal, the anterior one straight, the posterior one incurved; front extremity contracted, and bluntly subbiangulated; hinder extremity narrowly and obtusely rounded; beaks very prominent.  $\frac{1}{2}$ . *Arctic O.* The above has been drawn up from *Leach's types*; and does not suit our figure (pl. 14, f. 37), which looks more like the *British compressa* (*Montagu*).

*CRASSINA STRIATA* (t. 14, f. 38).—*NICANIA s. Leach, Voy. Ross.*—*A. s. Beech, Z. t.* 44, f. 9. Transverse, subequilateral, ranging from cordiform-elliptic to subovate-cordiform, not very thick, yellow-brown, densely lyrated throughout with raised striæ, which are narrower than their intervals, subarcuated and entire ventrally; extremities narrowed, the front one convexly subtruncated, the hinder one rounded; umbones prominent; beaks acute, inclined; lunule deep, cordate-lanceolate; ligament sunken, not half so long as the impressed area; teeth rather small.  $\frac{1}{2}$ . *Greenland*.

*CRASSINA ARCTICA*,\* (t. 14, f. 40, as *CYPRINOIDES*).—*C. COMPRESSA*, *Mont. t.* 26, lower f. 1 (*not desc.*)—*C. A. Gray, Parry.*—*ASTARTE C. Duval, Rev. Z.* 1841, p. 278.—*A. com. Macy.*—*C. CORRUGATA*,

*Brown, Il. C. B. t. 40, f. 24.*—A. BOREALIS, *Phil. N. C. 2, p. 58, As. t. 1, f. 11.*—A. COR. *Loven.*—A. A. *Br. Mol. 2, p. 461, t. 30, f. 7.*—*Sow. Th. 2, p. 780, t. 167, f. 20.* Subcordate-subtriangular, subovate, solid, inequilateral, with a fibrous silky chestnut cuticle, smooth, except at the acute and prominent beaks, arcuated at the simple ventral margin, which rises rather abruptly posteriorly; dorsal edges sloping, straight; lunule very profound, lanceolate or ovate-lanceolate; ligament very large; hinge-margin very broad. 1½. *N. Europe. Inadequately described at p. 89.*

On CYCLAS (p. 89). Consult the list of *Pisidia* (inequilateral *Cyclades*) in the *J. Conch. 2*; the *Ann. Lyc. N. York, 5, Bost. J. 4, 6, Pr. Bost. 3, 4, Zeit. Mal. 1845, 1850, Krauss' 'Sud-Afrikanischen Mollusken,' Morelet's 'Testacea Novissima,' &c.*

*Cyclas cornea*, p. 89, t. 9, f. 15 ... *C. lacustris*, p. 89, t. 14, f. 43 ... *C. obtusalis*, p. 90, t. 14, f. 47 ... *C. fontinalis*, p. 90, t. 14, f. 15 ... *C. similis*, p. 90, t. 13, f. 11 ... *C. striatula*, p. 90, t. 13, f. 12 ... *C. Sarratoga*, p. 90, t. 13, f. 16 ... *C. nitida*, p. 90, t. 14, f. 46 ... *C. appendiculata*, p. 91, t. 19, f. 42 ... *C. cinerea*, p. 91, t. 14, f. 44 ... *C. partumeia*, p. 91, t. 14, f. 48 ... *C. elegans*, p. 91, t. 14, f. 49.

On CYRENA (p. 92). Consult the monograph by Deshayes (*British Museum Catalogue*); see, too, *Proc. Philad. 3, Carpenter's Mazatlan Shells, and Mousson's Coquilles, &c., en Orient.*

*Cyrena orientalis*, p. 92, t. 13, f. 15 ... *C. violacea*, p. 92, t. 13, f. 13 ... *C. Woodiana*, p. 92, t. 14, f. 58 ... *C. rotundata*, p. 93, t. 14, f. 55 ... *C. Carolinensis*, p. 93, t. 14, f. 56 ... *C. Bengalensis*, p. 93, t. 13, f. 14 ... *C. turgida*, p. 93, t. 14, f. 50 ... *C. Cyprinoides*, p. 93, t. 14, f. 54 ... *C. Vanikorensis*, p. 94, t. 14, f. 59 ... *C. oblonga*, p. 94, t. 14, f. 53 ... *C. Sumatrensis*, p. 94, t. 15, f. 1 ... *C. Australis*, p. 94, t. 14, f. 57.

CYRENA TENEBROSA (t. 14, f. 2), *Hinds, An. Nat. (1842), 10, p. 81; Sulp. p. 66, t. 21, f. 7.*—BATISSA T. *Desh. Vener. p. 238.* Oval, transverse, inequilateral, thick, subventricose, rather glossy, dirty yellowish brown; posterior third with regular deep rather distant sulci, elsewhere smooth or nearly so; ventral edge convex, rising abruptly in front; anterior slope a little retuse, the surface behind it a little flattened; umbones much eroded; ligament large, very prominent; inside whitish, purple-stained in front and ventrally; primary teeth strong; lateral teeth crenated, short, the hinder one approximate. 2...3. *Feejee Isles.*

CYRENA PHILIPPINARUM (t. 14, f. 60), *Hanl. Z. P. 1844, p. 159.* Very large, compressed, obovate, very inequilateral, heavy, with fold-like concentric sulci behind; cuticle glossy, brownish olive when adult, bright grass-green when young; ventral edge only slightly convex; ligamental edge somewhat sloping, forming an obtuse angle with

the anterior margin; beaks entire, approximate, incumbent; ligament very big, much projecting; inside bluish white, stained with purple near the ventral margin and at the front extremity; primary teeth very large; lateral teeth crenated or denticulated above, the front one very approximate.  $4 \dots 4\frac{1}{2}$ . *Philippines*. A few narrow divergent folds appear upon the anterior slope. Allied to *Keraudreni*. = ?

CYRENA OBESA (t. 15, f. 9), *Hinds, Ann. Nat.* (1842), 10, p. 81; *Sulp.* p. 66, t. 21, f. 6.—BATESSA o. *Desh. Vener.* p. 238. Transversely obovate, broad and bluntly subbiangulated in front, much narrowed and rounded behind, subinequilateral, solid, more or less ventricose (chiefly in front), coloured with an olivaceous-yellow shining cuticle, marked behind with distant pliciform wrinkles, and on the anterior slope with divergent irregular corrugations; ligamental edge straightish, little sloping; hinder dorsal margin produced, decidedly sloping; ventral edge arcuated; ligament very large and prominent; no defined lunule, the edges pouting at its ordinary site; umbones not projecting, eroded; inside whitish, stained with purple; lateral teeth crenulated, the hinder one the nearer.  $2 \dots 2\frac{1}{2}$ . *Feejee Isles*.

CYRENA PLACENS (t. 14, f. 52), *Hanl. Z. P.* 1844, p. 160.—*Desh. Vener.* p. 252. Suborbicular, subventricose, inequilateral, glossy, with close and regular concentric groove-like striæ; epidermis yellowish green; ventral edge convex; dorsal edge sloping and a little convex on either side; beaks eroded; ligament narrow, tawny, depressed; no lunule; inside purple; lateral teeth very minutely wrinkled, but not crenated, the hinder one short and approximate.  $1\frac{1}{2} \dots 1\frac{3}{4}$ . *Honduras*.

CYRENA SORDIDA (t. 14, f. 51), *Hanl. Z. P.* 1844, p. 159.—*Desh. Vener.* p. 255. Suborbicular, thick, subinequilateral, ventricose or tumid; epidermis brownish olive, changing to greenish yellow towards the convex ventral margin, concentrically rugulose; front dorsal edge a little convex, sloping; beaks eroded, tolerably prominent; ligament somewhat sunken; no lunule; inside whitish throughout; lateral teeth short, blunt; the hinder one the more approximate.  $1\frac{1}{2} \dots 1\frac{3}{4}$ . *Florida?* Between *C. Carolinensis* and *C. radiata*.

#### CYRENOIDA, Joannis.

Orbicular, equivalve, ventricose, thin, in the typical species with an epidermis, smooth or nearly so; ligament external, prominent; cardinal teeth, 3 in one valve, 2 in the other; scars long, narrow; pallial line simple.

CYRENOIDA DUPONTIA (t. 15, f. 4), *Joannis, Mag. Z.* 1835, t. 64.—*Sow. Conch. Man. f.* 118.—CYRENOIDES DUPONTII, *Woodw.* p. 298,

t. 19, f. 19. Bluntly and rather obliquely subquadrate, extremely inequilateral, thin, ventricose, white under a very thin olive skin, smooth, subarcuated ventrally. Front extremity broadly rounded, its dorsal edge scarcely sloping; extremity of the excessively short hinder side obtuse in the middle, towards which a faintly depressed line runs from the small and incurved beaks. Umbones much swollen: no marked umbonal ridge. Ligament elongated, not sunken: inside bluish white. 1½. *Senegal*. In each valve is a transverse laminar lunular tooth, and a very slender cardinal one; a compound sublaminar tooth intervenes in the right valve.

CYRENOIDA CUMINGII (t. 15, f. 5). Broadly suboval, subinequilateral, thin, swollen, white under a slight dirty yellow epidermis, smooth, with a faint umbonal ridge; ventral edge arcuated, ascending evenly at each extremity; front extremity bluntly (not broadly) subbiangulated, its dorsal edge hardly sloping; hinder extremity rounded, its dorsal edge scarcely, if at all, incurved: umbones moderately prominent; beaks very small, incurved; neither lunule nor lozenge; ligament short, narrow, not projecting: inside white: a deeply cloven and a small simple cardinal tooth in each valve. 1½. *Philippines*.

CYRENOIDA OBLONGA (t. 15, f. 6). Transverse, subquadrate-oboval, inequilateral, thinnish, more or less ventricose (especially in front), both within and without glossy white, partially covered with a slight epidermis of a canary-yellow. smooth, arcuated at the ventral margin; front side rather the shorter, evenly rounded; hinder side bluntly angular above, rounded below, its dorsal edge almost horizontal; umbones little prominent; beaks inclined: no lunule; ligament short, small, narrow, seated in an elongated narrow shelving area, whose sides are sharp at the edge; teeth as in *C. Cumingii*. 1½. *Philippines*. The surface is retuse between the area and the site of an umbonal ridge.

On GALATHEA (p. 93). Dunker has published a *G. Bengoensis*, and Philippi *G. lata*, *rubicunda* and *tenuicula* in the Zeit. Mal. 1848, 1849.

On CYPRINA (p. 95). *C. triangularis* and *minima* (p. 95) are identical; they are not true *Cyprina*, but *Cytherea* of the *Cyprina* group. The *Venus pumila* of Lamarck (= *Cyt. Cyrilli*, Scacchi) is only a varietal form.

On CYTHEREA (p. 95). *C. pellucida* (p. 101) is figured in Sow. Th. 2, t. 136, f. 190, and *C. umbonella* (p. 102) at t. 130, f. 64, 66 of the same work. Should the *C. cygnus* of Sowerby be identical with ours (p. 109), the Mediterranean locality is, to say the least, uncertain. For additional species consult the monographs by Sowerby (Th. Con.), and Deshayes (British Museum Catalogue). Examine, likewise,

Philippi's 'Abbildungen,' Chenu's II. Conch. and Dunker's Guineæ Shells.

*Cytherea petechialis*, p. 96, t. 15, f. 9 ... *C. impudica*, p. 96, t. 11, f. 10 ... *C. meretrix*, p. 96, t. 15, f. 8 ... *C. graphica*, p. 96, t. 15, f. 11 ... *C. zonaria*, p. 96, t. 15, f. 10 ... *C. purpurata*, p. 97, t. 15, f. 30 ... *C. nivea*, p. 97, t. 11, f. 34 ... *C. lilacina*, p. 98, t. 15, f. 12 ... *C. impar*, p. 98, t. 11, f. 7 ... *C. florida*, p. 98, t. 13, f. 22 ... *C. nitidula*, p. 98, t. 13, f. 19 ... *C. citrina*, p. 99, t. 13, f. 23 ... *C. albina*, p. 99, t. 13, f. 20 ... *C. Mactroides*, p. 99, t. 13, f. 17 ... *C. trigonella*, p. 99, t. 13, f. 18 ... *C. sulcatina*, p. 99, t. 9, f. 13 ... *C. Hebraea*, p. 99, t. 13, f. 21 ... *C. tigrina*, p. 100, t. 15, f. 13 ... *C. Venetiana*, p. 100, t. 13, f. 34 ... *C. Guineensis*, p. 100, t. 15, f. 23 ... *C. trimaculata*, p. 101, t. 10, f. 5 ... *C. abbreviata*, p. 103, t. 13, f. 29 ... *C. bicolor*, p. 104, t. 15, f. 16 ... *C. lubrica*, p. 104, t. 9, f. 10 ... *C. rosea*, p. 104, t. 9, f. 11 ... *C. tortuosa*, p. 104, t. 15, f. 22 ... *C. squalida*, p. 104, t. 13, f. 40 ... *C. hieroglyphica*, p. 104, t. 15, f. 29 ... *C. pannosa*, p. 105, t. 15, f. 14 ... *C. unicolor*, p. 105, t. 15, f. 28 ... *C. argentina*, p. 105, t. 15, f. 15 ... *C. conveza*, p. 105, t. 15, f. 34 ... *C. floridella*, p. 105, t. 15, f. 17 ... *C. planulata*, p. 105, t. 13, f. 25 ... *C. Crassatelloides*, p. 106, t. 15, f. 32 ... *C. plicatina*, p. 108, t. 13, f. 32 ... *C. effossa*, p. 109, t. 15, f. 18 ... *C. excavata*, p. 109, t. 15, f. 19.

CYTHEREA COR (t. 15, f. 7), *Hanl. Z. P.* 1844, p. 110.—*C. TEL-LINOIDEA*, *Sow. Th.* 2, p. 634, t. 136, f. 191.—*DIONE C. Desh. Vener.* p. 71. Cordate-trigonal, white within and without, but little convex, with very crowded slender regularly disposed concentric striæ; the front side longer, and somewhat wedge-shaped; ligamental margin much sloping, slightly convex; ventral edge entire, subarcuated; beaks acute; lunule oblong, impressed. 4...1. *Africa. Epidermis white and velvety.*

CYTHEREA AURANTIA (t. 15, f. 20).—*C. AURANTIACA*, *Sow. G.—Reeve, C. S.* t. 69, f. 3.—*C. AURANTIA*, *Sow. Th.* 2, p. 628, t. 132, f. 97.—*DIONE A. Desh. Vener.* p. 56. Ovate-subcordiform, inequilateral, solid, ventricose, smooth, under a tawny orange horny epidermis of an orange-tinted flesh-colour, with the beaks white; ventral edge arcuated, entire; extremities rounded, the front one usually attenuated when mature; hinder dorsal edge not incurved; lunule not sunken, elongated; umbones prominent; ligament large and projecting; inside white, with a purple spot on the front dorsal edge. 4. *Mexico.*

CYTHEREA OVUM (t. 15, f. 21), *Hanl. Z. P.* 1845, p. 21.—*Sow. Th.* 2, p. 621, t. 129, f. 45.—*MERETRIX O. Desh. Vener.* p. 34. Ovate, very solid, equilateral, ventricose, glossy, smooth, whitish, under a tawny epidermis; ventral edge entire, arcuated; both dorsal

edges rather convex and somewhat sloping; anterior side bluntly subangulated, bluish ash-coloured above; posterior extremity rounded; beaks not inclined, often eroded; lunule obsolete; inside whitish, stained with purplish liver-colour in front, anterior tooth slightly crenulated, scarcely any pallial sinus.  $\frac{2}{5}$ ... $1\frac{1}{4}$ . *Malabar*.

CYTHEREA OBLIQUATA (t. 15, f. 24), *Hanl. Z. P.* 1844, p. 109.—*Sow. Th.* 2, t. 133, f. 125.—DIONE O. *Desh. Vener.* p. 65. Ovate-cordate (sometimes oblong-cordate), more or less tumid, rather strong, nearly smooth, whitish, speckled with minute brown scattered linear zigzags, which become denser upon the swollen umbones; ligamental edge rather convex, somewhat sloping; ventral edge subarcuated, entire; lunule large, indistinct, colourless; beaks white, very slanting; ligament narrow; hinder extremity obtuse; inside white or pink.  $1\frac{1}{2}$ ... $2\frac{1}{4}$ . *Philippines*.

CYTHEREA RIVULARIS (t. 15, f. 25, as C. SCRIPTA, VAR.!)—VENUS R. *Born.* t. 5, f. 7, *teste* *Desh.*—CIRCE R. *Sow. Th.* 2, p. 652, t. 139, f. 46, 7, 8.—*Desh. Vener.* p. 84. Subquadrate, flat, solid, very inequilateral, glossy, white or yellowish white, with usually 2 or 3 imperfect chestnut rays, encircled with very narrow distant convex folds that often (? usually) become obsolete in front and near the arcuated and entire ventral margin, and are decussated by short narrow curved diverging folds near the dorsal edges, of which the front one is convex and moderately sloping, and the hinder one straightish and much sloping; umbones flattened; beaks acute; slopes flat, chestnut-stained; ligament sunken; inside tinged with rose-colour. 2. *Australia*.

CYTHEREA CYRILLI (t. 15, f. 26).—VENUS C. *Scacchi, Lettera Test. Napolit.*—C. APICALIS, *Phil.* 1, p. 40, t. 4, f. 5. Small, rounded-triangular, rather compressed; glossy, speckled with pale chocolate linear markings on a whitish ground, and usually adorned with a few broken rays of the same hue; closely and finely grooved throughout; ventral edge entire, subarcuated; ligamental edge convex, not much sloping; hinder dorsal edge straightish or subretuse, much sloping; beaks acute, prominent, inclined; lunule rather large, oblong-cordate, inconspicuous; ligament sunken; teeth and scars of section *Circe*.  $\frac{1}{4}$ . *Mediterranean*. Evidently a variety of *C. Minima*.

CYTHEREA AFFINIS (t. 15, f. 27), *Brod. Z. P.* 1835, p. 200.—*Sow. Th.* 2, p. 630, t. 132, f. 101. — DIONE A. *Desh. Vener.* p. 73. I regard this shell as only a flattened variety of TORTUOSA, with the concentric ridges sharper and more distant. 1... $1\frac{1}{4}$ . *W. Columbia*.

CYTHEREA ALBIDA (t. 15, f. 31).—*List.* t. 273, f. 109, quoted as VENUS A. by *Gm.* 3287.)—CHIONE A. *Gray, Analyst.*—C. KINGII, VAR. *Sow. Th.* 2, t. 133, f. 131, probably.—DIONE A. *Desh. Vener.*



p. 68. Ovate, very inequilateral, shining, pale yellowish white, sub-ventricose, not very solid, smooth or with irregular concentric wrinkles; ventral edge entire, subarcuated; front extremity bluntly rounded; hinder extremity attenuatedly rounded; ligamental edge not much sloping; beaks very acute, much inclined; lunule not impressed, defined by an incised stria; no dorsal area; ligament not prominent; inside wholly white. 1½...1½. "*Jamaica*."

CYTHEREA VARIANS (t. 15, f. 83), *Hanl. Z. P.* 1844, p. 109.—*Sow. Th.* 2, p. 639, t. 133, f. 138, 9.—DIONE V. *Desh. Vener. p.* 66.—C. RUBIGINOSA, *Phil. N. C. teste Sow.* Ovate-heart-shaped, inequilateral, subventricose, thinnish, white, variegated by chestnut-brown angularly flexuous lines and spots; with groove-like concentric striae, which are chiefly conspicuous posteriorly; lunule large, heart-shaped, defined by an impressed line, adorned with a chestnut or livid purple spot; anterior slope veined with chestnut; inside wholly whitish, its margin entire. 1...1½. *Brazil. Hinge as in C. lata.*

CYTHEREA HINDSII (t. 15, f. 35), *Hanl. Z. P.* 1844, p. 110.—*Sow. Th.* 2, p. 614, t. 128, f. 27.—TRIGONA H. *Desh. Vener. p.* 53. Triangular, ventricose, rather solid, smoothish, glossy, subequilateral, whitish, clouded with brown, blunt at each extremity; hinder side very slightly the larger; beaks incurved, pale; lunule large, somewhat inconspicuous, wholly pale; anterior slope streaked with brown; inside whitish, edge entire. 1...1. *Guyaquil.*

CYTHEREA PHILIPPINARUM (t. 15, f. 36), *Hanl. Z. P.* 1844, p. 110.—*Sow. Th.* 2, p. 627.—MERETRIX P. *Desh. Vener. p.* 39. Cordate, inequilateral, ventricose, thickish, variegated with narrow rays and angularly flexuous lines of purplish liver-colour on a paler ground of the same hue; with crowded narrow convex ribs, whose intervals are smooth; lunule short, white, heart-shaped; ventral edge entire, arcuated; inside whitish, with a livid spot beneath the umbones. ¾...1. *Philippines. Dorsal edge margined with livid purple.*

CYTHEREA PLEBEIA (t. 15, f. 37), *Hanl. Z. P.* 1844, p. 109.—CIRCE P. *Sow. Th.* 2, p. 653, t. 138, f. 33 to 37.—CY. ERYTHREA, Jonas, in *Phil. N. C. teste Sow.* Suborbicular, squarish, very inequilateral, solid, slightly compressed, externally variegated with fulvous on a whitish ground, internally liver-coloured; with very crowded concentric sulci; ligamental edge convex, and somewhat sloping; front dorsal edge very slightly retuse, much sloping; ventral margin arcuated, somewhat crenulated; umbones not flattened, devoid of diverging striae; lunule white, lanceolate. 1...1½. *Philippines. Minute tawny zigzags adorn the whitish ground of the posterior surface; the fulvous hue predominates anteriorly.*

On ARTEMIS (p. 106). Consult the monographs by Reeve (*Conch. Ic.*), Sowerby (*Th. Con.*), and Deshayes (*British Museum Catalogue*).

*Artemis hepatica* (as *Cytherea h.* p. 101), t. 13, f. 33 ... *A. lucinalis* (as *Cytherea l.* p. 101), t. 13, f. 30 ... *A. lunaris* (as *Cytherea l.* p. 101), t. 13, f. 31 ... *A. ponderosa*, p. 106, t. 15, f. 38 ... *A. bilunulata*, p. 107, t. 15, f. 44 ... *A. Africana*, p. 107, t. 15, f. 40.

ARTEMIS SUBQUADRATA (t. 15, f. 39), *Hanl. Z. P.* 1845, p. 11.—*Reeve, I. Art. f.* 15.—*Sow. Th.* 2, p. 661, t. 141, f. 27. Suborbicular-subquadrate, broader than long, compressed, a little pellucid, very inequilateral, whitish both within and without, concentrically substriated; ventral edge arcuated in front; convex and rising behind; dorsal edge straightish and decidedly sloping in front, convex and not sloping behind; anterior end very broad, posterior end narrow; lunule large, nearly obsolete. 1½. *W. Columbia.*

ARTEMIS SIMPLEX (t. 15, f. 41), *Hanl. Z. P.* 1845, p. 11.—*Reeve, I. Art. f.* 59.—*Sow. Th.* 2, p. 657, t. 140, f. 6. Orbicular-subtrigonal, rounded at both ends, solid, subinequilateral, glossy, ivory-white, ventricose, with concentric subimbricated moderately distant sulci; ventral edge arcuated; both dorsal edges abruptly sloping, the front one arcuated, the hinder one retuse; lunule sunken, not large; no impressed ligamental area. 1½. *Panama. The greatest length is from the beaks to the opposite margin.*

ARTEMIS SCULPTA (t. 15, f. 42), *Hanl. Z. P.* 1845, p. 12.—*Reeve, I. Art. f.* 52.—*Sow. Th.* 2, p. 659, t. 141, f. 15. Orbicular-subquadrate, more or less ventricose, rather strong and glossy, of a dirty white or very pale ochre, with very crowded concentric sulci, which are subimbricated in the middle and lamellar at the extremities, where they are crossed by radiating striæ; ventral edge subarcuated; dorsal edge rather convex and hardly sloping in front, retuse and slightly sloping behind; lunule sunken, ovate-heart-shaped; no ligamental area; beaks not prominent. 1½...2. *Australia?*

ARTEMIS SCALARIS (t. 15, f. 43).—CYTHEREA s. *Menke, N. Hol.*—*A. s. Sow. Th.* 2, p. 674, t. 144, f. 78.—*Reeve, I. Art. f.* 11.—*DOSINIA s. Desh. Vener. p.* 22. Suborbicular, usually transverse, at most subventricose, moderately strong, glossy, livid rufous, often with 2 or 3 rays and a few concentric rings of white, always whitish at the hinder dorsal corner; with numerous closely arranged concentric lyræ, which are depressed and more or less shelving in the middle, but narrower and sublamellar at the sides; anterior extremity angulated above, rounded below, ligamental edge convex, not much sloping, dorsal area planulate or slightly shelving; lunule profound, not large; beaks much inclined, tipped with rusty orange. 2½. *Australia.*

On VENUS (p. 109). *Venus pectinula* (p. 115) proves to be identical with the *V. ovata* of the following page; *V. lagopus* (p. 115) and *V. gallinula* are identical, teste Deshayes; *V. callosa* is distinct from

from *V. Stutchburii* (p. 117). For additional species consult the monographs by Sowerby (Thes. Conch. vol. ii.), and Deshayes (British Museum Catalogue): see, too, *V. Troschelii* and *nodosa* of Dunker's Guinea Shells, and *cuneimeris* of Conrad (Pr. Philad. 8).

*Venus pygmaea* p. 110, t. 16, f. 13 ... *V. reticulata*, p. 110, t. 16, f. 9 ... *V. reflexa*, p. 110, t. 16, f. 10 ... *V. Gnidia*, p. 113, t. 13, f. 43 ... *V. Nuttallii*, p. 113, t. 16, f. 46 ... *V. neglecta*, p. 113, t. 16, f. 12 ... *V. Californensis*, p. 114, t. 16, f. 5 ... *V. Dombeyi*, p. 115, t. 16, f. 17 ... *V. gallinula*, p. 115, t. 13, f. 35 ... *V. macrodon*, p. 116, t. 9, f. 7 ... *V. præparca*, p. 117, t. 13, f. 41 ... *V. decorata*, p. 117, t. 16, f. 49 ... *V. spissa*, p. 117, t. 16, f. 44 ... *V. Australis*, p. 118, t. 15, f. 48 ... *V. costellata*, p. 118, t. 15, f. 58 ... *V. crenifera*, p. 118, t. 16, f. 30 ... *V. crassicosta*, p. 118, t. 16, f. 45, 49 ... *V. discors*, p. 118, t. 15, f. 60 ... *V. fuscolineata*, p. 118, t. 15, f. 53 ... *V. leucodon*, p. 118, t. 15, f. 46 ... *V. histrionica*, p. 119, t. 16, f. 31 ... *V. Columbiensis*, p. 119, t. 16, f. 2 ... *V. tricolor*, p. 119, t. 16, f. 32 ... *V. hiantina*, p. 120, t. 16, f. 38 ... *V. crassisulca*, p. 120, t. 16, f. 48 ... *V. rhombifera*, p. 120, t. 13, f. 45 ... *V. punctifera*, p. 121, t. 9, f. 14 ... *V. turgida*, p. 121, t. 16, f. 6 ... *V. galactites*, p. 123, t. 16, f. 51 ... *V. scalarina*, p. 123, t. 16, f. 4 ... *V. marmorata*, p. 116, t. 16, f. 36 ... *V. phaseolina*, p. 124, t. 13, f. 37 ... *V. carneola*, p. 124, t. 13, f. 38 ... *V. florida*, p. 124, t. 16, f. 14, and var. *bicolor*, f. 15 ... *V. petalina*, p. 124, t. 9, f. 8 ... *V. texturata*, p. 124, t. 15, f. 52 ... *V. floridella*, p. 125, t. 13, f. 36 ... *V. pulchella*, p. 125, t. 13, f. 39 ... *V. tristis*, var. *elegantina*, p. 125, t. 16, f. 37 ... *V. flammiculata*, p. 125, t. 16, f. 7, 8 ... *V. Aphrodina*, p. 126, t. 16, f. 33 ... *V. Peronii*, p. 126, t. 16, f. 43 ... *V. undulosa*, p. 126, t. 15, f. 49 ... *V. gemma*, p. 126, t. 15, f. 45 ... *V. Japonica*, p. 127, t. 13, f. 46 ... *V. Zelanica*, p. 127, t. 16, f. 41 ... *V. Kochii* (note to *V. paupercula*, p. 127), t. 16, f. 28 ... *V. intermedia*, p. 127, t. 16, f. 40 ... *V. Peruviana*, p. 128, t. 16, f. 47 ... *V. multicostata*, p. 128, t. 16, f. 29 ... *V. opaca*, p. 128, t. 15, f. 54 ... *V. lenticularis*, p. 128, t. 15, f. 55 ... *V. Cypria*, p. 128, t. 16, f. 3.

\* *With a crenulated ventral margin.*

*VENUS ROSALINA* (t. 15, f. 56), Rang, Mag. Z. 1834, t. 42.—Sow. Th. 2, p. 126, t. 160, f. 181. — Desh. Vener. p. 102. Roundish obovate, subinquinilateral, solid, subventricose, subradiatingly mottled with brownish on a pallid ground, closely encircled with strong convex shelving ribs that become broken or nodulous (in the adult) near the brown flatly impressed cordately ovate lunule; the costal intervals merely broad sulci, smooth; anterior slope shelving, flanked with remote lamellar knobs; ventral edge much arcuated, crenulated. 1½...1½. Senegul.

*VENUS SUBIMBRICATA* (t. 15, f. 57), *Sow. Z. P.* 1835.—*Sow. Th.* 2, t. 154, f. 35, 6, 7.—*ANOMOLOCARDIA* s. *Desh. Vener.* p. 117. Rounded heart-shaped, very inequilateral, very solid, subventricose, pale brownish fulvous variegated with patches of livid chestnut, concentrically ridged, and radiatingly costellated; umbonal ridges distant, briefly lamellar, the rest ascending in steps, as it were, from the greatly arcuated and coarsely crenated ventral margin; costellæ rounded, numerous, quite as broad as their intervals; ligamental edge much sloping; anterior slope excavated, its circumference angulated; lunule large, cordate, impressed; ligament sunken; inside whitish.  $\frac{1}{2}$ ... $1\frac{1}{2}$  r. *C. America.*

*VENUS OBLONGA* (t. 16, f. 1).—*DOSINA* o. *Gray, Dief. Zeal.*—*V. o. Sow. Th.* 2, p. 732, t. 161, f. 197.—*Desh. Vener.* p. 103.—*V. ZELANDICA*, *Gray, in Yates, N. Z. teste Desh.* Transversely subovate, a little subcordiform, extremely inequilateral, blunt at both ends, solid, very ventricose, dirty whitish or rust-coloured, rather closely encircled throughout with lamelliform lyræ, which are slightly subcrenulated behind by radiating striolæ, the intervals broader and elsewhere either smooth or minutely striolated concentrically; ventral edge closely denticulated, subarcuated; ligamental edge not much sloping; ligament scarcely raised; beaks much inclined; lunule large, cordiform, flat, defined by a deep groove; inside wholly white, pallial sinus very small, acutangular, lateral scars very large.  $1\frac{1}{2}$ ... $2\frac{1}{2}$  r. *N. Zealand.*

*VENUS LAMINOSA* \* (t. 16, f. 11), *Turt. D. B.* 148, pl. 10, f. 4. Subovate-cordiform inequilateral, compressed, subangulately attenuated in front, squalid or pale ochre-yellow, sometimes subarticulated with liver-colour upon the raised sculpture; rather closely encircled with numerous sublamellar ribs, the intervals of which are either smooth or concentrically incised; ventral edge finely crenulated, arcuated and much ascending behind; anterior slope retuse; lunule well-defined; wholly whitish within.  $\frac{3}{4}$ . *Britain.*

*VENUS KELLETHI* (t. 16, f. 47), *Hinds, Sulph.* p. 65, t. 19, f. 5.—*Sow. Th.* 2, p. 721, t. 155, f. 64.—*CHIONE* K. *Desh. Vener.* p. 127. Subovate-cordiform, subtruncately attenuated in front, narrowly rounded behind, inequilateral, thickish, more or less ventricose, fawn-coloured in radiating shades in the middle, whitish at the extreme sides; sculpture at the umbonal region (and in the young) consisting entirely of shelving flattened belts and close-set interstitial radiating sulci, elsewhere, except at the sides (beyond the coloured surface) which are radiated, as it were, with concentric lamellæ that do not extend to the angular limit of the ligamental slope, smooth, except for the distant coarse and deep concentric sulci; ventral edge denticulated within, arcuated, rising at both ends; beaks acute, recurved; lunule large, pallid, well-defined, with pouting edges; ligament

small, sunken; inside wholly whitish; pallial sinus very short. 2...2½. *Veragua*.

VENUS COMPTA (t. 16, f. 18), *Sow. Z. P.* 1835, p. 43.—*Sow. Th.* 2, p. 710, t. 154, f. 32, 3, 4.—CHIONE c. *Desh. Vener.* p. 133. Resembling *V. cancellata*, and with difficulty separated from it. It is, however, flatter, more spread at the sides, where the radiating striæ are divergent, and the concentric ribs are less reflected and more laminar. 1½. *Peru*. The specimen delineated was immature. The lamellæ are much more crowded ventrally in adult examples.

VENUS SUBNODULOSA (t. 16, f. 19), *Hanl. Z. P.* 1844, p. 160.—CHIONE s. *Desh. Vener.* p. 143. Ovate, thickish, subequilateral, moderately convex, with crowded concentric ribs that are blunt in the middle and in front, but elevated into short lamellæ behind, and are everywhere rendered nodulous by radiating sulci; ventral edge crenulated, convex or subarcuated; both dorsal edges somewhat sloping; the anterior slope and the oblong-cordate lunule prominent; ligament sunken, and very narrow; inside stained with purple. ¾. *Philippines*. Whitish variegated with livid brown, or brownish fulvous with the beaks whitish.

VENUS CHEMNITZII (t. 16, f. 20), *Hanl. Z. P.* 1844, p. 160.—*Sow. Th.* 2, p. 702, t. 152, f. 6.—*Desh. Vener.* p. 108. Rhombic-heart-shaped, thick, ventricose, very inequilateral, whitish, somewhat radiatingly spotted and streaked with brown, with very numerous short and everywhere curly concentric lamellæ, and very crowded narrow radiating costellæ; ventral edge convex, crenulated; front dorsal edge straightish, not at all sloping; anterior side angulated above; hinder side short, attenuated, rounded; lunule brown, cordate; ligament sunken, narrow; inside whitish. 1½...2½. *Philippines*. Teeth as in *V. puerpera*. A slight tinge of orange beneath the umbones.

VENUS LYRA (t. 16, f. 21), *Hanl. Z. P.* 1844, p. 161.—*Sow. Th.* 2, t. 161, f. 192.—*Desh. Vener.* p. 104. Rounded-cordate, ventricose, very inequilateral, marked with brown angular lines and spots on a whitish ground; closely encircled by smooth riblets, which are membranaceous near the extremities, and subimbricated in the middle, the intervals devoid of sculpture; ventral edge arcuated, crenated within; lunule deep brown, heart-shaped; anterior slope excavated; inside whitish. 1½...1¾. *Guinea*.

VENUS DECIPIENS (t. 16, f. 22), *Hanl. Z. P.* 1844, p. 162.—CHIONE d. *Desh. Vener.* p. 128. I have reason to believe that this is only the young of *V. fasciata* (the *V. Brogniarti* of Payraudeau).

VENUS LACERATA (t. 16, f. 23), *Hanl. Z. P.* 1844, p. 161.—*Sow. Th.* 2, p. 704, t. 152, f. 3, 4.—*Desh. Vener.* p. 105. Allied to *V. puerpera*, but less ventricose, and with its ventral and anterior

margins more arcuated; the ligamental edge straightish and horizontal; the concentric lamellæ more crowded, and very rough in front; the exterior with brown or ferruginous angular streaks on a whitish ground; the anterior extremity neither stained within nor without. 2½. *Moluccas?* It also resembles *V. Listeri*, but is much rounder.

*VENUS SCABRA* (t. 16, f. 24), *Hanl. Z. P.* 1844, p. 161.—*Sow. Th.* 2, p. 718, t. 157, f. 101, 2.—*CHIONE* s. *Desh. Vener.* p. 130. Ovate-heart-shaped, inequilateral, somewhat ventricose, pale brown, with crowded radiating costellæ, which are roughened by concentric scales; ventral edge crenated, much arcuated; dorsal edges little convex, the hinder one short; beaks acute, inclined; lunule not conspicuous; the anterior slope not excavated; inside livid, darker in front. ½...¾. *Philippines.* The riblets are peculiarly strong upon the umbones, from whence they separate into 2 or 3 smaller ones, which become, as they advance, more densely armed with the concentric rows of scales.

*VENUS ROBORATA* (t. 16, f. 25), *Hanl. Z. P.* 1844, p. 161.—*Sow. Th.* 2, t. 157, f. 117. Triangular-heart-shaped, solid, very inequilateral, more or less ventricose, whitish, stained inside with purple in front, girt with numerous smooth blunt concentric belts, whose intervals are likewise devoid of sculpture; ventral edge arcuated, slightly crenulated; front dorsal edge convex, and much sloping; lunule profound, heart-shaped; anterior slope smooth, excavated; hinder side with a very blunt groove radiating from the beaks to the ventral corner. 1...1. *Van Dieman's Land.*

*VENUS CALOPHYLLA* (t. 16, f. 26).—*V. THIARA*, *Sow. G. (not Dil.)* —*Reeve*, t. 67, f. 3.—*V. c. Phil. Wieg. Arc.* 1836, 229, t. 8, f. 2.—*Sow. Th.* 2, p. 172, t. 160, f. 176.—*Desh. Vener.* p. 120. Obovate-subtrigonal, subcordate, very inequilateral, not solid, rather compressed, cream or pale flesh-coloured, sometimes spotted with ruddy flesh-colour on the thin remote much-elevated concentric lamellæ, which traverse the shell, but are interrupted near both extremities and absent from the shelving anterior slope and the subcordiform pouting lunule; ventral edge arcuated, minutely crenulated; dorsal slopes decided; ligament very slender; beaks recurved; inside not stained anteriorly. 1½...1¾. *China; Australia.*

*VENUS GALLINA* (t. 16, f. 42), *Lin. Sys. ed.* 10.—*Ch.* f. 308, 9, 0.—*Phil.* 1, p. 44.—*Sow. Th.* 2, p. 734, t. 161, f. 202, 3.—*CHIONE* g. *Desh. Vener.* p. 143. Obovate-heart-shaped, inequilateral, solid, ventricose, closely painted with minute angular lines of livid or rufous brown on a whitish ground, and usually adorned with 3 rays of the same tint, or more rarely of pure white; surface coarsely closely and unsymmetrically grooved concentrically, the raised intervals often

*C. Mortoni*, p. 140, t. 16, f. 50, 51 ... *C. fragile*, p. 141, t. 17, f. 51 ... *C. lyratum*, p. 141, t. 17, f. 1 ... *C. tumoriferum*, p. 141, t. 17, f. 50 ... *C. monstrosum*, p. 143, t. 17, f. 32 ... *C. lineatum*, p. 143, t. 16, f. 53 ... *C. imbricatum*, p. 143, t. 17, f. 42 ... *C. fornicatum*, p. 143, t. 17, f. 49 ... *C. biangulatum*, p. 143, t. 17, f. 19 ... *C. planicostatum*, p. 144, t. 17, f. 48 ... *C. subretusum*, p. 144, t. 17, f. 29.

CARDIUM LACUNOSUM (t. 16, f. 52), *Reeve, Z. P.* 1845; *I. Car. f.* 81. Ovate or elongated-ovate, usually somewhat oblique, subequilateral, thick, tumid, ochraceous-yellow, usually paler in the umbonal region, spotted and sometimes banded with livid red, radiated with from 30 to 34 narrow prominent ribs, whose sides are more or less concave, and whose wrinkled intervals in front are broader above than below. Central ribs crenated or serrato-crenated on each side, extreme front ribs with oblique compressed scaly tubercles; hinder ribs closely set with flattened scaly plates, the rounded tops of which imbricate each other upwards (in the direction of the umbones). Ventral edge peculiarly arcuated, stained inside with crimson in front; lunular site brownish lake; beaks scarcely inclined; inside white, with 2 shortish umbonal rosy rays. 2. *Zanzibar*. The flattened summit of the ribs forms a protruding ledge.

CARDIUM RUBICUNDUM (t. 16, f. 54), *Reeve, Z. P.* 1844, p. 169; *I. Car. f.* 144. Like *C. lacunosum*, yet scarcely so tumid, the ground-colour rosy, speckled with orange-brown, and variegated with white, with 37 ribs, whose intervals are narrower, the scales on the anterior ribs sharper, and not restricted ventrally to the extreme costæ. 2. *Zanzibar*. The internal rays less distinct and often ochraceous.

CARDIUM OBOVALE (t. 17, f. 10), *Sow. Z. P.* 1833, p. 84.—*Sow. C. I. Car. f.* 4.—*Reeve, I. Car. f.* 117. Peculiarly oblique, peaked oval, longer than broad, rounded at both ends, solid, tumid, wholly white, with about 21 radiating ribs, of which the 7 front ones are smooth depressed and divided by narrow intervals, the next 3 larger prominent and regularly crenated by closely-disposed subarcuated concentric raised lines, the remainder less elevated, broader than their intervals, and smooth, except their front edges, which are serrato-crenated; the costal interstices very finely and closely cancellated concentrically; no umbonal ridge; umbones almost terminal; no defined lunule.  $\frac{3}{4}$ ... $\frac{1}{4}$ . *W. Columbia*.

CARDIUM DIONEUM (t. 17, f. 11), *Sow. Z. J.* 4, p. 367; *Beech. Z. t.* 42, f. 6.—*Sow. C. I. Car. f.* 52.—*Reeve, I. Car. f.* 122. Small, subrhombic, very inequilateral, white, radiatingly ribbed, with a remotely spinous carinated angle running very obliquely from the beaks to the peaked and projecting anterior extremity. Valves tumid at the keel, laterally compressed, broadly biangulated in front, rounded behind. Ribs depressed, especially the front ones (except the two

extreme squamiferous costæ), which are very close-set; the hinder ones finely subnodulous. Ligamental edge rising, straightish; ventral edge arcuated behind, retuse in front; ligamental area somewhat sunken.  $\frac{1}{2}$ . *Isle of Annaa*.

CARDIUM ORBITA (t. 17, f. 17), *Brod. and Sow. Z. P.* 1833.—*Sow. C. I. Car. f.* 13.—*Reeve, I. Car. f.* 85. Large, obliquely oval, gibbous, longitudinal, solid, variegated with fulvous stains on a whitish ground, with about 42 radiating ribs; front ribs armed with short and very crowded oblique scaly tubercles; hinder ribs with overlapping plates, the arcuated extremities of which form, as it were, concentric crenæ, intervening ones laterally but unevenly serrato-squamose or creno-serrated on each side, the front being invariably the rougher side; costal intervals deep, rather narrow, smooth to the eye; inside white, edged with purplish red.  $2\frac{1}{2}$ ... $3\frac{1}{2}$ . *Isle of Annaa*. Even the central ribs become wholly squamose near the ventral margin.

CARDIUM INCARNATUM (t. 17, f. 27), *Reeve, Z. P.* 1844, p. 167; *I. Car. f.* 2. Longitudinally suborbicular, subequilateral, thickish, tumid, of an uniform glossy flesh-colour, which changes to pink near the margin, radiated with about 26 prominent ribs, that are rounded above, undercut at their bases, surmounted by a row of minute spinous grains (often abraded), and are separated by much narrower intervals, which are crossed by obsolete sulci; ventral edge much arcuated; umbones prominent, very oblique; inside whitish, dirty pink in front, strongly ribbed.  $1\frac{1}{2}$ ... $1\frac{1}{2}$ . *Philippines*.

CARDIUM DESHAYESII (t. 17, f. 34), *Payr. t.* 1, f. 33, 4, 5.—*Sow. C. I. Car. f.* 70.—*Reeve, I. Car. f.* 83. Rotundately cordate, gibbous, pale rusty brown, nearly equilateral, with 22 radiating ribs, which are armed down the middle with a row of short spoon-shaped scales vaulting over towards the umbones; posterior scales wider, and rather depressed; intervals transversely marked with wrinkled striæ.  $1\frac{1}{2}$ . *Mediterranean*.

CARDIUM GLAUCUM (t. 17, f. 36).—C. RUSTICUM, *Ch. (not Lin.) f.* 197.—*Desh. El. C. t.* 25, f. 1.—C. g. *Brug. E. p.* 221.—C. LAMARCKII, and BELTICUM, *Reeve, I. Car. f.* 93, 113.—C. EDULE, var. *Br. Mol.* Oboval, or ovate, transverse, thinnish, tumid, glossy, subinequilateral, white tinged with bluish gray, usually smoke-coloured in front, radiated with about 24 rounded ribs, of which the posterior ones are set with raised concentric wrinkles that elsewhere become wholly or partially obsolete. Hinge and internal ribs brown.  $1\frac{1}{2}$ ... $1\frac{1}{2}$ . *Europe*. I think it an extreme variety of *C. edule*.

CARDIUM CASPIUM (t. 17, f. 38).—CORBULA C. *Eichw. Zool. Spec.*—MONODACNA C. *Eichw. Faun. Casp.*—CAR. C. *Reeve, I. Car.*



f. 96. — *Midd. Mal. R.* 3, p. 31. Transversely oboval, subinequilateral, rounded at both ends, gaping in front, thin, ventricose, ochraceous-white, usually with pale livid bands, radiated with deeper-tinted flattened narrow numerous and smoothish ribs, their intervals nearly as broad; ventral edge arcuated, rising at both ends, particularly in front; umbones oblique; an obscure cordate lunular impression with pouting edges: inside rufous and livid purple; only a single distinct cardinal tooth in each valve, lateral teeth wholly obsolete.  $\frac{3}{4}$ ...1 $\frac{1}{4}$ . *Caspian Sea*. The surface has most minute concentric wrinkles.

CARDIUM PARVUM (t. 17, f. 39, as C. PUNCTATUM), *Phil. Sic.* 2, p. 39, t. 14, f. 17. Shape and sculpture of *C. Exiguum*, but rather more transverse, and less angular posteriorly, with the prominent square-cut central ribs and their finely wrinkled intervals of equal breadth. Colour brown or smoke-black, variegated with whitish, especially on the umbones, and often speckled or subarticulated with a similar hue on one or two of the anterior costæ.  $\frac{1}{2}$ ... $\frac{1}{2}$ . *Sicily, in Lake Fusaro*. The specimen figured was received from Philippi as "*C. punctatum* of Renieri" (undescribed); two others subsequently sent by him as "*C. parvum*" proved identical.

CARDIUM SCABRUM (t. 17, f. 43), *Phil. Sic.* 2, p. 38, t. 14, f. 16. This species proves identical with the *C. nodosum* of Turton, from whose figure our own was copied.

CARDIUM HYSTRIX (t. 17, f. 46), *Reeve, Z. P.* 1844, p. 168; *I. Car.* f. 40. Somewhat squarely cordate, tumid, concavely angulated in front, with about 32 narrow compressed radiating ribs, that are closely armed with erect scale-like slender spines, except the anterior ones, which are only roughened with short small scales; white, sometimes tinged with pink in the costal intervals, which latter are concentrically traversed by raised striæ, and edged on either side with a scarlet line; interior purple-red. 1 $\frac{1}{2}$ . *Philippines*.

CARDIUM MUTICUM (t. 17, f. 55).—*C. PAPHRACEUM*, *Sow. C. I. Car.* f. 55.—*C. m. Reeve, I. Car.* f. 32. Transverse, suborbicular, subinequilateral, thin, merely ventricose, ochraceous-yellow, mottled or stained with liver-colour on the umbones; surface neither scabrous nor granular, radiated by fine and rather distant dotted impressed lines, the intervals of which assume the aspect of flattened ribs, and ventrally become slightly retuse in the middle near the sides; extremities with slight and depressed costellæ, the dotted line being there the middle of the riblet; ventral edge much arcuated, rising more particularly behind; dorsal slopes inconsiderable, the front one subhorizontal; hinder lateral teeth very large. 2 $\frac{1}{2}$ ...2 $\frac{3}{4}$ . There are some arched concentric raised wrinkles near the posterior ventral edge.

On *CARDITA* (p. 144). *C. squamifera* of Sowerby proves identical with *C. crassicosta* (p. 146), and is a native of Australia, not of Senegal; *C. squamosa* of Sow. (p. 147) has been termed *C. Senegalensis* by Reeve, whose *Cyprie. vellicata* (I. Cyp. f. 7) is the mature state of *C. lavigata* (p. 148). For additional species consult Reeve's monograph (Conch. Ic.), Proc. Bost. 2, 3, Zeit. Mal. 1847, 1848, Voyage de la Venus, and D'Orbigny's S. Am. and Cuba Shells.

*Cardita megastrophia* (as *Venericardia m.* p. 129), t. 18, f. 22 ... *C. sulcata*, p. 144, t. 18, f. 2 ... *C. Ajar*, p. 144, t. 18, f. 3 ... *C. borealis*, p. 145, t. 18, f. 4 ... *C. crassa*, p. 145, t. 17, f. 58 ... *C. Cuvieri*, p. 146, t. 17, f. 56 ... *C. tumida*, p. 146, t. 17, f. 57 ... *C. varia*, p. 146, t. 18, f. 21 ... *C. tricolor*, p. 146, t. 17, f. 60, and t. 18, f. 9 ... *C. spurca*, p. 146, t. 18, f. 16 ... *C. muricata*, p. 146, t. 18, f. 17 ... *C. crassicosta*, p. 146, t. 18, f. 19 ... *C. rufescens*, p. 147, t. 18, f. 20 ... *C. nodulosa*, p. 147, t. 18, f. 25 ... *C. calyculata*, p. 147, t. 18, f. 7 ... *C. aviculina*, p. 148, t. 18, f. 24 ... *C. sublavigata*, p. 148, t. 18, f. 28 ... *C. lithophaga*, p. 148, t. 18, f. 26 ... *C. radiata*, p. 148, t. 18, f. 8 ... *C. affinis*, p. 149, t. 18, f. 15 ... *C. pectunculus*, p. 149, t. 18, f. 13.

*CARDITA AUSTRALIS* (t. 17, f. 59).—*VENERICARDIA A. Quoy, Ast. t. 78, f. 11, 2*.—*C. TRIDENTATA*, *Reeve (as of Say, Am. C. t. 40), I. Car. f. 22*. Transverse, obovate, very inequilateral, solid, of an uniform dull whitish hue, at most subventricose, covered with radiating crenated ribs (about 22), that are rounded, close together, and not much raised; the crenæ nodulous on the umbones, squamular near the convexly sloping ligamental edge, and obsolete (in the adult) near the subarcuated ventral margin; costal intervals smooth; lunule small, profound, cordate; inside white. 1½...1¾. *N. Zealand.*

*CARDITA ABYSSICOLA* (t. 18, f. 1), *Hinds, Sulp. p. 65, t. 19, f. 3*.—*Reeve, I. Card. f. 37*. Squarish-subcordate, very inequilateral, firm, tumid, snow-white, with very numerous square-cut prominent radiating ribs, that are most closely crenated with raised scales, and divided by broader intervals; ligamental edge horizontal, straightish, subparallel with the ventral; anterior edge rounded; posterior extremity narrow; lunule large, rounded-cordate, impressed. 1. *Straits of Malacca.*

*CARDITA CANALICULATA* (not of *Reeve, Z. P. 1843, p. 193*), t. 18, f. 5. Transversely suborbicular, subcordate, rather oblique, very inequilateral, rather strong, more or less ventricose, dull, mottled with white and intense flesh-colour, the former chiefly present at the umbones; rayed with about 18 prominent ribs, all of them closely noduled with very numerous transverse solid crenæ; their intervals square-cut, and of about equal breadth; ventral edge arcuated, rising

behind; front dorsal edge straightish, scarcely sloping, angulated at the extremity; front ventral corner and hinder extremity rounded; umbones prominent; lunule very small, broadly heart-shaped: inside white.  $\frac{1}{2}$ ... $\frac{1}{2}$ . *Indian Archipelago*. As Reeve's paper has priority, this shell, should it not prove (as some suspect) the young of *C. nitida*, var. (!) must receive another appellation.

*CARDITA CORBIS* (t. 18, f. 6), *Phil. Sic.* 1, p. 55, t. 4, f. 19. Very small, oblique, subtrigonal, longer than broad, peaked dorsally, semi-oval ventrally, subequilateral, thick, more or less ventricose, ochraceous-yellow, with external flexuous streaks of reddish brown, densely striated throughout concentrically, the striæ undulated by obsolete radiating sulci; ventral edge arcuated, crenated, rising in front; ligamental margin curving abruptly downwards; both extremities rounded, the hinder peculiarly projecting below; umbones very prominent and oblique; beaks acute, much inclined; neither lunule nor lozenge. In one valve a single oblique cardinal tooth, in the other two, of which one is compressed and elongated, the other straight and triangular.  $\frac{1}{2}$ . *Mediterranean*.

*CARDITA ACULEATA* (t. 18, f. 10), *Phil.* (as *CHAMA A. of Poli*, t. 23, f. 23) 1, p. 54, t. 4, f. 18.—*Reeve, I. Car.* f. 17. Oval-trapeziform, extremely inequilateral, rounded in front, thickish, ventricose or tumid, white, sometimes tinted with pink or flesh-colour upon the radiating ribs, which cover the surface, are from 16 to 20 in number, square-cut, rather narrower than their unsculptured intervals, and closely armed with rather long vaulted scales; ventral edge subarcuated; ligamental edge straightish or subconvex, slightly elevated; ligament sunken; lunule cordate, impressed; beaks acute, inclined; inside white.  $\frac{3}{4}$ ... $\frac{1}{2}$ . *Mediterranean*.

*CARDITA PICA* (t. 18, f. 11), *Reeve, Z. P.* 1843, p. 191; *I. Car.* f. 8. Oblong, subtrapeziform, subtruncated behind; extremely inequilateral, thickish, ventricose, white with dark brown spots or blotches, that are more particularly conspicuous upon the ribs, which radiate over the entire surface. Ribs from 16 to 18, angular in the middle, the hinder ones squamosely nodiferous, the front ones with vaulted scales; their intervals radiatingly striated, and subdecussated. Ventral edge subarcuated in front, incurved behind; ligamental edge straightish, rising, forming a very obtuse angle with the very oblique anterior margin. Lunule cordate, brown, impressed. Beaks very acute. Inside white, stained in front with dark brown or chocolate at the dorsal corner.  $1\frac{1}{2}$ . *Philippines*.

*CARDITA GUBERNACULUM* (t. 18, f. 12), *Reeve, Z. P.* 1843, p. 191; *I. Car.* f. 9. Oblong, dilated and rounded anteriorly, subtruncated behind (the beaks being almost terminal), thick, rather compressed (except the oblique umbonal elevation), rufous-brown, fading to white

posteriorly, radiatingly costated; ribs more or less arched, squamiferous, front ribs and their vaulted scales large, in adult examples usually obsolete or worn down near the dorsal corner, hinder ribs numerous (yet not crowded) and very narrow; ligamental edge sub-arcuated, rising; lunule small, deep; ligament sunken; inside livid brown in front, white behind; anterior teeth large, lamelliform.  $1\frac{1}{2}$ ...2. *Zanzibar*.

CARDITA LACUNOSA (t. 18, f. 14), *Reeve, Z. P.* 1843, p. 193; *I. Card. f.* 31. Peaked ovate, bluntly acuminate in front, rounded behind, subventricose, not very inequilateral, not very solid, white, stained anteriorly with brownish purple, rayed with about 21 ribs, which are surmounted by a narrower crest-like ridge armed with vaulted scales; intervals profound, minutely wrinkled in a concentric direction; ventral edge arcuated, rising at both ends; umbones prominent; lunule small, ovate-cordiform.  $\frac{3}{4}$ .

CARDITA MARMOREA (t. 18, f. 18), *Reeve, Z. P.* 1843, p. 191; *I. Car. f.* 12. Oblong-subrhombic, extremely inequilateral, very solid, ventricose, whitish, with a few chocolate-brown spots on the radiating ribs, which are about 16 in number, rounded, deeply divided by narrow unsculptured intervals, nodosely crenated upon the posterior half, smoothish (except when young) upon the anterior moiety; ligamental edge scarcely, if at all, sloping, subparallel to the ventral; anterior extremity much rounded; lunule small, profound, rounded-heart-shaped; beaks almost terminal; inside wholly white, except some purple-brown spots beneath the lunule and at the end of the ligament.  $1\frac{1}{2}$ ...2 $\frac{1}{2}$ . *Australia*. The inner front ribs are remarkably broad; there are no vaulted scales as in the allied *C. Preissii*.

CARDITA NITIDA (t. 18, f. 23), *Reeve, Z. P.* 1843, p. 192; *I. Card. f.* 27.—? *C. ARCINELLA, Val. Ven.* Transversely oval, bluntly subbiangular and somewhat tapering in front, rounded behind, very inequilateral, thick, ventricose, whitish spotted with brown upon the radiating ribs, that are about 20 in number, moderately distant, cover the whole surface, and are closely crenated; the front ribs narrower, their crenæ subnodulous; the intervals square-cut, and either smooth or obscurely lyrated; ventral edge arcuated behind, less so in front; umbones prominent; lunule inconspicuous in the adult; inside whitish.  $1\frac{1}{2}$ ...1 $\frac{1}{2}$ . *Philippines*.

On CYPRICARDIA (p. 149). Consult *Reeve's* monograph (*Conch. Icon.*): see, too, *Mag. de Z.* 1841, *Proc. Bost.* 1, 2, and *D'Orbigny's Cuba Shells*.

*Cypricardia angulata*, p. 149, t. 18, f. 27.

CYPRICARDIA OBESA (t. 18, f. 29), *Reeve, Z. P.* 1843, p. 196; *I. Cyp. f.* 10. Subrhombic, obliquely truncated in front, very inequilateral, solid, tumid, both within and without of an uniform

glossy white (except occasionally a minute purple line in front of the beaks), smooth upon the umbones, elsewhere with regular concentric lyrriform wrinkles; ligamental edge scarcely, if at all, sloping, subparallel with the somewhat convex ventral one, which is rounded at both extremities; umbonal slope excavated, defined by an angle behind, and by a second one in front near the subterminal beaks; no lunule.  $1\frac{1}{2}$ ...2 $\frac{1}{4}$ . *Africa?*

CYPRICARDIA DECUSSATA (t. 18, f. 30), *Reeve, Z. P.* 1843, p. 195; *I. Cyp. f.* 6. Elongated-oblong, extremely inequilateral, rather thin, ventricose, white, closely radiated with extremely numerous scarcely raised striæ, which are obsolete behind, and in front decussately reticulated near the ventral edge; ligamental edge convex, subparallel with the ventral; anterior extremity bluntly rounded; posterior extremity contracted, rounded; umbones a little flattened; no distinct lunule.  $\frac{1}{2}$ ...2.

CYPRICARDIA SOLENOIDES (t. 18, f. 31), *Reeve, Z. P.* 1843, p. 196; *I. Cyp. f.* 11. Transversely elongated, very inequilateral, moderately strong, at most subventricose, rather compressed behind the umbones, white with vestiges of livid or reddish brown linear rays, smooth or with close concentric wrinkles; ventral and ligamental edges subparallel; front extremity abruptly rounded; hinder termination narrowed and rounded; umbones livid purple; no lunule; inside white, usually purple-tinted in front.  $\frac{1}{2}$ ...2. *Lord Hood's Island. Seems a variety of C. vellicata.*

CYPRICARDIA LAMINATA (t. 18, f. 32), *Reeve, Z. P.* 1843, p. 196; *I. Cyp. f.* 9. Ovate-oblong, dilated and convexly subtruncated in front, narrow and rounded behind, extremely inequilateral, thin, compressed, wholly white, when young partially radiated with raised striolæ, when mature with about three erect remote concentric lamellæ on the anterior side towards the subarcuated ventral margin, otherwise smooth or nearly so; ligamental edge straight, subhorizontal; no distinct lunule: lateral tooth very small.  $\frac{1}{2}$ ...1 $\frac{1}{2}$ . *Lord Hood's Island.*

ISOCARDIA VULGARIS (t. 18, f. 33).—*I. MOLTKIANA, Sow. (not CHAMA M. Ch.) G.—Reeve, C. S. t.* 78, f. 3.—*I. v. Reeve, I. Is. f.* 2. Transversely subcordate, rather thin, tumid, pale ochraceous, cream-coloured, or flesh-coloured, not variegated, shining, ridged throughout with very numerous subimbricated concentric lyræ, which disappear upon the subretuse anterior slope; ventral edge much arcuated posteriorly, incurved behind the blunt yet very prominent umbonal ridge; anterior extremity subbiangulated, the edge convex. 1...1 $\frac{1}{2}$ . *China.*

ISOCARDIA LAMARCKII (t. 18, f. 34).—*C. MOLTKIANA, Brug. (not CHAMA M. Ch.), p.* 405.—*I. M. F. t.* 233, f. 1.—*I. L. Reeve, I. Is.*

*f. 5.* Cordate-subtrapeziform, very obliquely transverse, moderately strong, tumid, glossy, yellowish white, stained and spotted with ruddy flesh-colour in front, ridged throughout, except on the concave anterior slope, with numerous rounded lyræ; ventral edge sub-arcuated, retuse in front; anterior side much produced, its extremity obliquely biangulated, the edge rectilinear; umbonal ridge projecting, carinated. 1...1½. *China.* The ridges are not so close or numerous as in *I. Vulgaris*.

On *ARCA* (p. 151). The description of *A. imbricata* (p. 152) is from Bruguière, but unless both Reeve and myself should be mistaken, the expression "rhomboidal oblong" would be more appropriate than "ovate." The copied synonymy is not to be trusted to. *A. cardissa* (p. 153) is only a distorted *tetragona* (p. 152); *A. Gaimardi* (p. 155) a form of *A. lactea* (p. 154). Wood's figure of *A. Brasiliana* (p. 158) does not exhibit the features of that shell. For additional species consult the monograph by Reeve (*Conch. Ic.*); see, likewise, *Ann. Nat.* 1842, Lesson in the 'Coquille,' *J. Philad.* 2, *Zeit. Mal.* 1845, 1847, 1848, 1851, D'Orb. *S. Am. and Cuba Shells*, *Pr. Bost.* 2, 3, *J. Conch.* 2, and Dunker's *Guinea Shells*.

*Arca tetragona*, p. 152, t. 10, f. 13 ... *A. imbricata*, p. 152, t. 18, f. 35 ... *A. trapezina*, p. 153, t. 18, f. 56 ... *A. gradata*, p. 155, t. 18, f. 39 ... *A. Pacifica*, p. 155, t. 18, f. 59 ... *A. divaricata*, p. 155, t. 18, f. 58 ... *A. solida*, p. 155, t. 18, f. 54 ... *A. truncata*, p. 156, t. 19, f. 14 ... *A. alternata*, p. 156, t. 19, f. 1 ... *A. velata*, p. 156, t. 19, f. 17 ... *A. mutabilis*, p. 156, t. 18, f. 52 ... *A. lithodomus*, p. 156, t. 19, f. 2 ... *A. glacialis*, p. 156, t. 19, f. 8 ... *A. antiquata*, p. 157, t. 18, f. 50 ... *A. Deshayesii*, p. 157, t. 18, f. 42 ... *A. incongrua*, p. 159, t. 18, f. 44 ... *A. labiosa*, p. 159, t. 19, f. 3 ... *A. pexata*, p. 159, t. 18, f. 43 ... *A. concinna*, p. 160, t. 19, f. 4 ... *A. obesa*, p. 160, t. 19, f. 5 ... *A. labiata*, p. 160, t. 19, f. 7 ... *A. nux*, p. 160, t. 19, f. 6 ... *A. formosa*, p. 160, t. 19, f. 9 ... *A. grandis*, p. 160, t. 19, f. 10 ... *A. emarginata*, p. 161, t. 18, f. 60 ... *A. tuberculosa*, p. 161, t. 18, f. 53 ... *A. Cardiformis*, p. 161, t. 19, f. 11 ... *A. multicostata*, p. 161, t. 19, f. 12 ... *A. transversa*, p. 161, t. 18, f. 57 ... *A. auriculata*, list of plates, p. 17, t. 14, f. 55.

\* (*Byssoarca*). Ventral edge hiant, not regularly toothed or notched.

*ARCA IMBRICATA* (t. 18, f. 36), *Poli*, t. 25, f. 10, 11, teste *Phil.* 1, p. 58.—*A. PULCHELLA*, *Reeve*, *I. Arc.* f. 122. Small, subrhombic, subventricose, very inequilateral, of an uniform dirty white, densely fimbriated by broad membranaceous lamellæ, which are crimped throughout by shallow radiating sulci, that are divergent on the retuse umbonal slope: ventral edge incurved in the middle, curving

up behind; ligamental area short and very narrow.  $\frac{1}{2} \dots \frac{1}{2}$ . *Mediterranean*.

ARCA SCABRA (t. 18, f. 37), *Poli*, t. 25, f. 22, *teste Phil.* 1, p. 58; 2, p. 42. Obliquely subrhomboid, very inequilateral, somewhat compressed, except at the umbones, reddish brown, with close concentric sulci, the raised intervals of which are nodosely decussated, forming, as it were, interrupted series of radiating lyræ; beyond the umbonal ridge, which is angular near the sharp and obliquely inclined beaks, the surface assumes a granular aspect. Ventral edge simple, slightly hiant near the incurved middle, arcuated at each end, obliquely rising posteriorly; ligamental area rather narrow.  $\frac{1}{2} \dots \frac{1}{2}$ . *Mediterranean*.

ARCA ILLOTA (t. 18, f. 41).—BYSSOARCA I. *Sow.* Z. P. 18:3.—A. I. *Reeve*, I. *Arc.* f. 78. Equivalve, inequilateral, not solid, ventricose, rotundately subcuneiform in front, rounded and much shorter behind, wholly white beneath a thin fuscous foliaceous epidermis; radiated with fine but projecting costellæ, that are closer and subnodulous at the extremities, and largest on the rounded umbonal ridge; dorsal edge short; ventral edge gaping; anterior margin arcuated; umbones swollen and prominent; beaks diverging from each other near the enlarged end of the short ligamental area.  $\frac{1}{2} \dots 1\frac{1}{2}$ . *Cent. America*. *There are some rather obscure and distant concentric raised wrinkles*.

ARCA VIRESCENS (t. 18, f. 47), *Reeve*, Z. P. 1844, p. 124; I. *Arc.* f. 97. Equivalve, elongated, very inequilateral, not ventricose, greenish white under a thin brown epidermis, which is bristly in front; radiated with simple raised striæ, which are distant anteriorly, yet close elsewhere; ventral edge gaping; front extremity produced, rotundately subtruncated, subemarginated dorsally; ligament rather narrow; inside quite white; teeth indistinct in the middle.  $\frac{1}{2} \dots 1\frac{1}{2}$ . *Philippines*.

ARCA TENELLA (t. 18, f. 48), *Reeve*, Z. P. 1844, p. 124; I. *Arc.* f. 91. Date-shaped, equivalve, oblique, very inequilateral, thin, ventricose, white or brownish white, clothed with a slight epidermis of scattered hairs; densely, subequally and finely grooved throughout, the radiating sculpture subgeniculated by rather indistinct concentric wrinkles; ventral gape slight; sides rounded ventrally; umbones prominent; beaks obtuse, incurved, and subdivergent posteriorly; ligamental area lanceolately acuminate in front; dilated but indistinct behind; inside wholly whitish.  $\frac{1}{2} \dots 1\frac{1}{2}$ . *Philippines*. *The sculpture is so fine that the surface feels smooth. The site of the umbonal ridge is rounded*.

ARCA MACULATA (t. 18, f. 49).—BYSSOARCA M. *Sow.* Z. P. 1833.—A. M. *Reeve*, I. *Arc.* f. 71. Subrhombic, biangulated in front, rounded behind, inequilateral, thickish, ventricose, whitish, stained

with chocolate on the subnodulous and concave umbonal slope, closely fimbriated by gradate concentric ridges, that are decussated by still more dense radiating lyræ; umbonal ridge angular; beaks pointed, seated near the end of the tawny-brown ligament, which is elongated and broadish; inside white, stained with chocolate in front, and on the hinge-margin; teeth numerous.  $1\frac{1}{2}$ . *Pacific*. *The ventral edge is usually incurved and slightly gaping*.

ARCA REEVEANA (t. 18, f. 51, as A. SQUAMOSA, var.), *D'Orb. Am. for A. HELBLINGII*, *Reeve, Ic. (not Brug.)*. Equivalve, subrhombic-oval, compressed, moderately thick, subinequilateral, white, with a rich brown shining somewhat scaly epidermis, roughened throughout by very numerous radiating costellæ, that are crowded and not much raised in the middle of the shell, where they are geniculated by the ridge-like wrinkles of increase, and are much more prominent, larger and more distant at the sides, where they are closely and nodosely crenated. Ventral edge gaping. Beaks seated at, or before, the second third of the length of the produced, narrow and sunken ligamental area, which is set with groove-like lines that diverge in very obtuse angles from the acute and prominent apices. Extremities with obtuse angles dorsally, rounded ventrally. Inside pure white; teeth very small in the middle, abruptly larger at the sides.  $1\frac{1}{2}$ ... $2\frac{1}{2}$ . *W. America*.

ARCA DECUSSATA (t. 19, f. 16).—BYSSOARCA D. *Sow. Z. P.* 1833, p. 18.—A. D. *Reeve, I. Car. f.* 81. Equivalve, inequilateral, thick, subventricose, oblong or oval-oblong, bluntly angulated dorsally, rounded ventrally, white, with an epidermis of dirty brown pointed scales; most closely radiated with very narrow costellæ, that are very closely and minutely decussated, the anterior riblets nodosely crenated, their intervals narrow; ventral edge gaping, arcuated anteriorly; ligament produced, narrow, evenly lanceolate; beaks rather acute and projecting; inside wholly white.  $1\frac{1}{2}$ ...2. *Pacific Isles*.

\*\* (*Arca proper*). *Ventral edge regularly notched or toothed*.

ARCA DILUVII (t. 18, f. 38).—A. ANTIQUATA, *Phil. (not Lin.)* 1, p. 59, t. 5, f. 2.—A. D. *Phil.* 2, p. 43. Obliquely suboval, equivalve, very inequilateral, solid, tumid, white, radiated with nearly 30 rounded ribs, which, as well as their nearly equal deep intervals, are closely striated concentrically; dorsal edge angulated at each extremity; anterior side with a rounded-off angle at the notched and arcuated ventral edge, which rises obliquely behind; umbones prominent; beaks remote; ligamental area tawny-brown, oval-lanceolate, with numerous close grooves that form very obtuse angles: teeth numerous.  $1\frac{1}{2}$ ... $1\frac{3}{4}$ . *Mediterranean*.



*ARCA TRAPEZIA* (t. 18, f. 40), *Desh. Rev. Zool.* 1839; *Mag. Z.* 1840.—*Reeve, I. Arc. Index*; f. 19, as *A. LOBATA* (and in *Z. P.* 1844). Equivalve, solid, tumid, ovate-subtrapeziform, or oval-subtrapeziform, very inequilateral, rufous-white under an umber-brown membranaceous epidermis, radiated with from 28 to 30 ribs, which on the posterior side are narrow elevated and nodosely crenated, but beyond the umbonal slope become smooth broader and more depressed; dorsal edge angulated at each extremity; anterior end with a rounded-off angle at the ventral edge, which is convex, but arches obliquely upwards posteriorly; umbones prominent; beaks remote; ligamental area as in *A. Diluvii*; teeth numerous.  $2\frac{1}{2}$  ...  $3\frac{1}{2}$ . *Australia*.

*ARCA RADIATA* (t. 18, f. 45), *Reeve, Z. P.* 1844, p. 43; *I. Arc. f.* 40. Inequivalve, oblong, inequilateral, ventricose, not very solid, angulated at both ends dorsally, white under a brown epidermis; both valves with about 28 radiating ribs, that are square-cut, narrower than their indistinctly latticed intervals, and, except in front, nodosely crenated (indistinctly so in the smaller valve); ventral edge arched, rounded, and rising at both ends, very obliquely so behind; no marked umbonal ridge; umbones prominent; beaks distant; seated at the posterior third of the produced and lanceolate ligamental area, which is retuse and unsculptured.  $1\frac{1}{2}$ ...2. *China*.

*ARCA OBLIQUA* (t. 18, f. 46), *Reeve, Z. P.* 1844, p. 43; *I. Arc. f.* 41. Equivalve, subovate, very oblique, very inequilateral, ventrally produced in front,\* moderately thick, subventricose, wholly white under a light brown epidermis, that is setosely bristly between the ribs, which are about 36 in number, depressed but square-cut, at least twice as broad as their concentrically striated intervals, crenated near the front extremity, and bifid towards the hinder one; ventral edge moderately arched, rising peculiarly behind; anterior edge convex, forming an obtuse angle with the dorsal, rounded ventrally; umbones approximated, seated at the third fifth of the rather narrow ligament; inside quite white; teeth very numerous.  $1\frac{1}{2}$ . *W. Africa*.

*ARCA CHALCANTHUM* (t. 19, f. 15), *Reeve, Z. P.* 1844, p. 44; *I. Arc. f.* 43. Inequivalve, subrhombic, thickish, more or less ventricose, whitish (stained inside at the edge with greenish blue), under a thin, green horny cuticle, that is partially coated again with a brown epidermis; rayed, in each valve, with about 28 narrow ribs, that are rather depressed, and, as well as their equally broad intervals, are smooth or nearly so; ventral edge obliquely arching upwards, behind; anterior side much the broader, perpendicularly subtruncated; umbones prominent; ligament elongated; teeth very fine and numerous.  $\frac{3}{4}$ ... $1\frac{1}{2}$ . *Philippines*. In the larger valve the ribs are most obscurely subnodulous.

On PECTUNCULUS (p. 162). The name *P. glycimeris* (p. 163) must be changed to *P. violascens*, or, perchance, to *P. pallens* (*Arca p. Lin.*); the author's statement relative to the Linnean types, both here and at page 162 (note to *P. pilosus*), having been an error, the result of too hasty an examination. Consult Zeit. Mal. 1846 (*P. hirtus*, Ph.), and 'Malacologia Rossica' (*P. septentrionalis*, Mid.).

*Pectunculus Siculus*, p. 162, t. 19, f. 19 ... *P. undulatus*, p. 162, t. 19, f. 26 ... *P. stellatus*, p. 163, t. 19, f. 31 ... *P. violascens* (as *P. glycimeris*, p. 163), t. 19, f. 20 ... *P. intermedius*, p. 164, t. 19, f. 21 ... *P. ovatus*, p. 164, t. 19, f. 22 ... *P. lineatus*, p. 164, t. 19, f. 32 ... *P. maculatus*, p. 164, t. 19, f. 34 ... *P. giganteus*, p. 164, t. 19, f. 33 ... *P. radians*, p. 165, t. 19, f. 25 ... *P. vitreus*, p. 165, t. 19, f. 28 ... *P. multicostatus*, p. 165, t. 19, f. 36 ... *P. parcipictus*, p. 165, t. 19, f. 35 ... *P. aurifluus*, p. 165, t. 19, f. 37 ... *P. tessellatus*, p. 166, t. 19, f. 23, 38 ... *P. morum*, p. 166, t. 19, f. 43 ... *P. oculatus*, p. 166, t. 19, f. 39 ... *P. nodosus*, p. 166, t. 19, f. 50 ... *P. pallium*, p. 166, t. 19, f. 41 ... *P. bicolor*, p. 166, t. 19, f. 42.

PECTUNCULUS SPADICEUS (t. 19, f. 18), Reeve, Z. P. 1843, p. 189; I. Pect. f. 47. Transverse, suborbicular, equilateral, thick, ventricose, chestnut-brown or tawny brown, concentrically incised by minutely waved crowded striæ, that become still more dense as they recede from the umbones, and are subdecussated laterally by fine almost obsolete radiating striolæ which pervade the entire surface in young individuals; ventral edge strongly toothed, much and evenly arcuated: beaks acute, not inclined, almost in the middle of the rather small and somewhat narrow ligament: inside white; hinge-margin broad; teeth large, moderately numerous. 1½. There are traces, or, as it were, shadowings out, of radiating ribs.

PECTUNCULUS TENUICOSTATUS (t. 19, f. 24), Reeve, Z. P. 1843, p. 80; I. Pect. f. 35. Suborbicular, equilateral, ventricose, rufous, obscurely mottled with white, radiated throughout with very numerous rather distant thread-like rounded costellæ, which are crenated, sharply elevated and far apart (except the extreme ones); their intervals exhibit, under the lens, a minute similar, yet still more crowded and decussated, sculpture; ligamental margin rather short; umbones rather prominent; beaks scarcely inclined, in the middle of the ligament; inside whitish, somewhat stained with brown; teeth numerous. 1½. China; Australia. When mature is angulated on one side. The epidermis is arranged in 3 or 4 rows between the riblets.

PECTUNCULUS PECTINOIDES (t. 19, f. 27), Desh. in Cuv. (ed. 1836), t. 87, f. 8.—Reeve, I. Pect. f. 44. Lenticular, depressly convex, radiately ribbed; ribs somewhat oblique, compressed, depressly flat, with the interstices delicately excavated; fleshy white, profusely

variegated and spotted with reddish brown; inside white, deeply stained on one side with brown. 1½. *Panama*.

*PECTUNCULUS ROSEUS* (t. 19, f. 29), *Reeve, I. Pect. f. 19*. Sub-orbicular, scarcely if at all oblique, equilateral, subventricose, mottled with white and rose-colour; the colouring matter almost confined to the ribs, which radiate over the entire surface, are very numerous (40 at least), convex, little raised, with their intervals very narrow and most closely decussated by very fine raised concentric wrinkles; ligamental margin moderately long; umbones not very prominent; beaks in the centre of the ligament, not inclined; inside white; teeth few. 1½. *N. Zealand*. Seems the young of Quoy's *P. latirostatus*.

*PECTUNCULUS LATICOSTATUS* (t. 19, f. 30), *Reeve (as of Quoy), I. Pec. f. 8*.—*P. OVATUS*, Quoy, *Ast. t. 77, f. 1, 2, 3*. Orbicular, or rounded-ovate, ventricose, equilateral, thick, pale flesh-colour, irregularly painted with dark reddish spots upon the radiating ribs, which are rather broad and diffused over the entire surface: inside whitish; teeth few. 3. *N. Zealand*.

On *NUCULA* (p. 167). Additional species may be sought in the *Z. P.* 1844, Möller's *Moll. Grœnl.*, Loven's *Moll. Scand.*, *Proc. Bost. 2*, *Proc. Philad. 3*, *Zeit. Mal.* 1851, *Dekay's Zoology of N. York*, Gray's Appendix to the 'Fly,' D'Orbigny's *Cuba Shells*, D'Orb. *S. Am.*, Forbes's *Ægean Shells* (*Report Brit. Assoc. 1843*), and in the 'Voyage de la Venus.'

*Nucula lanceolata*, p. 167, t. 19, f. 49 ... *N. elongata*, p. 167, t. 19, f. 50 ... *P. Patagonica*, p. 167, t. 19, f. 14 ... *N. crenifera*, p. 167, t. 19, f. 51 ... *N. Arctica*, p. 168, t. 20, f. 7 ... *N. rostrata*, p. 168, t. 20, f. 1 ... *N. parva*, p. 169, t. 19, f. 52 ... *N. polita*, p. 169, t. 19, f. 53 ... *N. costellata*, p. 169, t. 19, f. 54 ... *N. gibbosa*, p. 169, t. 19, f. 55 ... *N. Elenensis*, p. 169, t. 19, f. 56 ... *N. eburnea*, p. 169, t. 19, f. 57 ... *N. cuneata*, p. 169, t. 19, f. 58 ... *N. Thraciformis*, p. 169, t. 20, f. 15 ... *N. Eightsii*, p. 169, t. 20, f. 15 ... *N. Eightsii*, p. 169, t. 20, f. 2 ... *N. sapotilla*, p. 170, t. 20, f. 3 ... *N. nasuta*, p. 170, t. 19, f. 59 ... *N. fabula*, p. 170, t. 20, f. 6 ... *N. striata*, p. 170, t. 19, f. 60 ... *N. Mauritiana*, p. 170, t. 19, f. 46 ... *N. limatula*, p. 170, t. 20, f. 4 ... *N. Myalis*, p. 170, t. 19, f. 45 ... *N. decussata*, p. 171, t. 20, f. 8 ... *N. rugulosa*, p. 171, t. 20, f. 10 ... *N. nitida*, p. 171, t. 19, f. 44 ... *N. obliqua*, p. 171, t. 20, f. 9 ... *N. convexa*, p. 172, t. 20, f. 11 ... *N. pisum*, p. 172, t. 20, f. 12 ... *N. exigua*, p. 172, t. 20, f. 13 ... *N. proxima*, p. 172, t. 20, f. 5.

*NUCULA TENELLA* (t. 19, f. 47), *Hinds, Z. P. 1843, p. 99*. - Oval-oblong, subequilateral, rounded on one side, bluntly and abruptly peaked near the dorsal edge in the other (which, if either, is the more produced), compressed, thin, white under a shining yellowish

white epidermis, quite smooth, gaping at both ends; slopes of the dorsal edge slight, scarcely curved; no dorsal impressions; ventral edge arcuated, rising at both ends; umbones small, yet prominent; inside pearly white; teeth numerous, about equal on either side of the hinge.  $\frac{1}{4}$ . *Singapore*. The original description, like all of Hinds's, is too brief; the above has been drawn up from one of the types.

NUCULA RETICULATA (t. 19, f. 48), *Hinds*, *Z. P.* 1843, p. 100. Small, oval, subequilateral, acuminate and subrostrated medially at one end, attenuated and rounded at the other, subventricose, white, deeply and closely sulcated throughout, the lyræ (or raised lines) not exactly concentric, though running from side to side, their intervals crossed by very minute radiating lines; ventral margin arcuated; beaks moderately prominent, scarcely inclined; chief dorsal impression large, lanceolate  $\frac{1}{4} \dots \frac{1}{2}$ . *Philippines*.

NUCULA DELPHINODONTA (t. 20, f. 16), *Mighels*, *Proc. Bost.* 1; *Bost. J.* 4, p. 40, t. 4, f. 5. Minute, ovate, rather oblique, extremely inequilateral, not thin, ventricose, glossy, yellowish olive, not rayed, nearly smooth; ventral edge arcuated; anterior extremity rounded, the front edge arched; posterior termination abrupt, yet the hinder edge subarcuated; umbones rather swollen, yet not prominent; teeth very long, slender, pointed, 3 on one side, 7 on the other; no dorsal impressions. *Maine, N. America*.

NUCULA TENUISULCATA (t. 20, f. 17), *Couth.* *Bost. J.* 2, p. 64, t. 3, f. 8.—*N. MINUTA*, *Gould*, p. 101.—*Dekay*, 181. Oblong-lanceolate, very inequilateral, rounded on one side, greatly produced attenuated and rostrated on the other; tolerably strong, slightly compressed, ashy greenish yellow, closely sulcated concentrically, the lyræ and their simple intervals of equal size; ventral edge much arcuated; longer dorsal edge subretuse; shorter dorsal edge arcuated; from the scarcely prominent beaks to the narrow truncated tip of the rostrum run two indistinct ridges or angles, the space between which is flattened, and the area above them lanceolate and impressed, but the dorsal lips pouting; inside white; teeth from 12 to 14 on one side, from 16 to 18 on the other.  $\frac{2}{3} \dots \frac{2}{5}$ . *N. America*.

NUCULA PYGMÆA\* (t. 20, f. 18), *Munster*.—*Phil. Sic.* 2, p. 46.—*Midd. Mal. Ros.* 3, p. 28.—*N. LENTICULA*, *Möller*, p. 17.—*LEDA P. Brit. Mol.* 2, p. 230, t. 47, f. 10.—*YOLDIA P. Midd. Sib.* t. 18, f. 15 to 18. Minute, triangular-oval, subequilateral, ventricose, smooth; the polished cuticle yellowish olive; ventral edge entire, arcuated, rising at both ends; extremity of the longer side briefly subrostrated, its tip bluntly acuminate; shorter extremity rounded-angular; umbones prominent, swollen; beaks small, not inclined; no dorsal im-

pressions; cartilage-pit very small, about 12 angular teeth on each side of it.  $\frac{1}{4} \dots \frac{1}{5}$ . Britain; N. Europe.

On TRIGONA (p. 172). See, likewise, *T. uniophora* of Gray in his Appendix to the Voyage of the 'Fly,' and the *T. Lamarckii* (Gray) and *Jukesii* (Adams) of the Z. P. 1849.

*Castalia inflata*, p. 173, t. 24, f. 12.

On UNIO (p. 173). Since the publication of our monograph, Lea has issued a third edition of his Synopsis, which contains a list of numerous additional species. These, for the most part, may be found in parts 3, 4, 5 of his 'Observations upon Unio' (extracted from vols. 8, 9, 10 (n. s.) of the 'Transactions of the American Philosophical Society'), in the Zeit. Mal. 1846, 1847, 1848, 1851, 1852, Philippi's 'Abbildungen,' Chenu's Il. Conch., D'Orb. S. Am., Mousson's Java Shells, Bourguignat's 'Mollusques' in Saulcy's 'Voyage autour de la Mer Morte,' Proc. Philad. 1, 3, 4, 5, Mag. de Z. 1838, 1850, Morelet's 'Testacea Novissima,' J. Conch. 2, 4, Proc. Bost. 2, 3, Gray's Apx. to Dieffenb. N. Zealand, and Middendorff's work on the Zoology of Siberia.

*Unio inflatus*, p. 174, t. 21, f. 45 ... *U. laevis*, p. 174, t. 21, f. 41 ... *U. gracilis*, p. 174, t. 20, f. 37 ... *U. compressus*, p. 174, t. 20, f. 39 ... *U. Nicklinianus*, p. 175, t. 21, f. 52 ... *U. calatus*, p. 175, t. 20, f. 29 ... *U. heros*, p. 175, t. 22, f. 28 ... *U. undulatus*, p. 175, t. 20, f. 26 ... *U. plicatus*, p. 175, t. 20, f. 21 ... *U. trapezoides*, p. 176, t. 22, f. 29 ... *U. foliatus*, p. 176, t. 24, f. 1 ... *U. pliciferus*, p. 176, t. 20, f. 32 ... *U. multistriatus*, p. 176, t. 20, f. 35 ... *U. subtentus*, p. 176, t. 20, f. 34 ... *U. Conradicus*, p. 176, t. 23, f. 22 ... *U. acutissimus*, p. 177, t. 22, f. 35 ... *U. Murchisonianus*, p. 177, t. 31, f. 53 ... *U. Grayanus*, p. 177, t. 24, f. 5 ... *U. lachrymosus*, p. 177, t. 20, f. 38 ... *U. asperinus*, p. 178, t. 21, f. 12 ... *U. fragosus*, p. 178, t. 20, f. 40 ... *U. pustulatus*, p. 178, t. 22, f. 36 ... *U. apiculatus*, p. 178, t. 23, f. 51 ... *U. asper*, p. 179, t. 22, f. 37 ... *U. Dorfeuillianus*, p. 179, t. 23, f. 10 ... *U. stapes*, p. 179, t. 22, f. 38 ... *U. metanever*, p. 179, t. 21, f. 31 ... *U. cornutus*, p. 179, t. 20, f. 30 ... *U. pustulosus*, p. 180, t. 21, f. 34 ... *U. turgidus*, p. 180, t. 21, f. 51 ... *U. verrucosus*, p. 180, t. 21, f. 24 ... *U. graniferus*, p. 180, t. 23, f. 11 ... *U. irroratus*, p. 181, t. 20, f. 25 ... *U. dromas*, p. 181, t. 23, f. 23 ... *U. Æsopus*, p. 181, t. 24, f. 7 ... *U. varicosus*, p. 181, t. 21, f. 14 ... *U. perplexus*, p. 181, t. 22, f. 39 ... *U. granosus*, p. 182, t. 23, f. 21 ... *U. tuberculatus*, p. 182, t. 20, f. 27 ... *U. cylindricus*, p. 182, t. 20, f. 31 ... *U. spinosus*, p. 182, t. 23, f. 56 ... *U. Leeai*, p. 182, t. 23, f. 55 ... *U. arcaformis*, p. 183, t. 22, f. 40 ... *U. triangularis*, p. 183, t. 21, f. 35 ... *U. elegans*, p. 183, t. 21, f. 33 ... *U. Donaciformis*, p. 183, t. 22, f. 41 ... *U. ziczac*, p. 183, t. 22, f. 42 ... *U. heterodon*, p. 183, t. 21, f. 42 ... *U. securis*, p. 184, t. 20, f. 51 ... *U. camelus*, p. 184,

t. 21, f. 54 ... *U. oratus*, p. 184, t. 20, f. 43 ... *U. suboratus*, p. 184, t. 22, f. 43 ... *U. crassidens*, p. 184, t. 20, f. 46 ... *U. carbonarius*, p. 184, t. 22, f. 10; t. 23, f. 12 ... *U. gibber*, p. 185, t. 21, f. 46 ... *U. pumilis*, p. 185, t. 23, f. 13 ... *U. rubiginosus*, p. 185, t. 21, f. 43 ... *U. Barnesianus*, p. 185, t. 23, f. 14 ... *U. pileus*, p. 185, t. 21, f. 42 ... *U. Sowerbyanus*, p. 185, t. 21, f. 55 ... *U. trigonus*, p. 185, t. 21, f. 6 ... *U. solidus*, p. 186, t. 23, f. 15 ... *U. obliquus*, p. 186, t. 20, f. 24 ... *U. pyramidatus*, p. 186, t. 20, f. 45 ... *U. Troostensis*, p. 186, t. 23, f. 24 ... *U. Taitianus*, p. 186, t. 23, f. 26 ... *U. decisis*, p. 187, t. 22, f. 21 ... *U. clavus*, p. 187, t. 20, f. 52 ... *U. patulus*, p. 187, t. 22, f. 27 ... *U. Ravenelanus*, p. 187, t. 20, f. 59 ... *U. Rangianus*, p. 187, t. 21, f. 48 ... *U. sulcatus*, p. 188, t. 22, f. 22 ... *U. Haysianus*, p. 188, t. 24, f. 2 ... *U. ellipsis*, p. 188, t. 21, f. 7 ... *U. castaneus*, p. 188, t. 22, f. 30 ... *U. Tampicoensis*, p. 188, t. 20, f. 36 ... *U. Leconteianus*, p. 188, t. 22, f. 11, 51 ... *U. perdix*, p. 188, t. 20, f. 20 ... *U. pectorosus*, p. 189, t. 21, f. 22 ... *U. ventricosus*, p. 189, t. 24, f. 8 ... *U. occidens*, p. 189, t. 22, f. 24 ... *U. dolabræformis*, p. 189, t. 21, f. 47 ... *U. globosus*, p. 189, t. 23, f. 38 ... *U. splendidus*, p. 190, t. 20, f. 55 ... *U. ochraceus*, p. 190, t. 20, f. 48 ... *U. cariosus*, p. 190, t. 20, f. 22 ... *U. multiradiatus*, p. 190, t. 21, f. 10 ... *U. capsæformis*, p. 191, t. 21, f. 5 ... *U. Greenii*, p. 191, t. 24, f. 6 ... *U. pictus*, p. 191, t. 23, f. 35 ... *U. interruptus*, p. 191, t. 21, f. 28 ... *U. Menckianus*, p. 191, t. 23, f. 4 ... *U. venustus*, p. 192, t. 23, f. 5 ... *U. orbiculatus*, p. 192, t. 21, f. 2 ... *U. Australis*, p. 192, t. 21, f. 25 ... *U. Hydrarianus*, p. 192, t. 23, f. 6 ... *U. Clairbornensis*, p. 192, t. 21, f. 26 ... *U. luteolus*, p. 192, t. 23, f. 16 ... *U. pulcher*, p. 193, t. 23, f. 7 ... *U. Medellinus*, p. 193, t. 21, f. 19; t. 23, f. 8 ... *U. notatus*, p. 193, t. 23, f. 9 ... *U. Vanuxemensis*, p. 193, t. 22, f. 56 ... *U. Nashvillianus*, p. 193, t. 23, f. 31 ... *U. Zieglerianus*, p. 193, t. 22, f. 57 ... *U. Childreni*, p. 193, t. 23, f. 57 ... *U. lienosus*, p. 194, t. 21, f. 32 ... *U. obscurus*, p. 194, t. 22, f. 58 ... *U. delodontus*, p. 194, t. 21, f. 56 ... *U. lamellatus*, p. 194, t. 21, f. 49 ... *U. Bengalensis*, p. 194, t. 21, f. 50 ... *U. cæruleus*, p. 194, t. 20, f. 49 ... *U. olivarius*, p. 195, t. 22, f. 32 ... *U. Cumberlandianus*, p. 195, t. 22, f. 59 ... *U. Smithii*, p. 195, t. 23, f. 58 ... *U. Mühlfeldtianus*, p. 196, t. 22, f. 60 ... *U. cresserus*, p. 196, t. 23, f. 1 ... *U. glaber*, p. 196, t. 23, f. 2 ... *U. Hildrethianus*, p. 196, t. 23, f. 38 ... *U. fabalis*, p. 196, t. 21, f. 15 ... *U. parvus*, p. 196, t. 22, f. 3 ... *U. glans*, p. 196, t. 22, f. 38 ... *U. divaricatus*, p. 197, t. 23, f. 36 ... *U. Burroughianus*, p. 197, t. 22, f. 2 ... *U. discus*, p. 197, t. 22, f. 12 ... *U. simus*, p. 197, t. 23, f. 3 ... *U. Niloticus*, p. 197, t. 21, f. 39 ... *U. Egyptiacus*, p. 198, t. 20, f. 56 ... *U. brevidens*, p. 198, t. 20, f. 41 ... *U. tetralasmus*, p. 198, t. 23, f. 49 ... *U. campodon*, p. 198, t. 21, f. 17 ... *U. obesus*, p. 198, t. 22, f. 34 ... *U. Hope-tonensis*, p. 198, t. 20, f. 21 ... *U. jejunus*, p. 199, t. 22, f. 47 ...

*U. complanatus*, p. 199, t. 21, f. 20 ... *U. Griffithianus*, p. 199, t. 23, f. 28 ... *U. confertus*, p. 200, t. 23, f. 34 ... *U. fulvus*, p. 200, t. 23, f. 32 ... *U. congaræus*, p. 200, t. 22, f. 31 ... *U. declivis*, p. 200, t. 23, f. 50 ... *U. Blandingianus*, p. 200, t. 22, f. 1 ... *U. littoralis*, p. 201, t. 21, f. 13 ... *U. circulus*, p. 201, t. 20, f. 23 ... *U. lens*, p. 201, t. 21, f. 4 ... *U. Masoni*, p. 201, t. 23, f. 18 ... *U. rotundatus*, p. 201, t. 23, f. 30 ... *U. Paranensis*, p. 202, t. 21, f. 3 ... *U. membranaceus*, p. 202, t. 22, f. 6 ... *U. personatus*, p. 202, t. 23, f. 29 ... *U. retusus*, p. 202, t. 21, f. 11 ... *U. ebenus*, p. 202, t. 20, f. 47 ... *U. Kirklandianus*, p. 203, t. 23, f. 27 ... *U. subrotundus*, p. 203, t. 20, f. 58 ... *U. coccineus*, p. 203, t. 22, f. 54 ... *U. Shepardianus*, p. 204, t. 23, f. 25 ... *U. folliculatus*, p. 204, t. 22, f. 55 ... *U. dehiscens*, p. 204, t. 21, f. 36 ... *U. angustatus*, p. 204, t. 22, f. 25 ... *U. lanceolatus*, p. 204, t. 22, f. 26, and t. 20, f. 60 (copied) ... *U. parallelolopipedon*, p. 205, t. 21, f. 59 ... *U. platyrrhynchus*, p. 205, t. 23, f. 53 ... *U. productus*, p. 205, t. 23, f. 17 ... *U. Fisherianus*, p. 206, t. 22, f. 52 ... *U. Jayensis*, p. 206, t. 22, f. 53 ... *U. lugubris*, p. 206, t. 22, f. 9 ... *U. marginalis*, p. 206, t. 19, f. 53 ... *U. Iris*, p. 206, t. 21, f. 37 ... *U. tenuissimus*, p. 206, t. 20, f. 42 ... *U. bilineatus*, p. 207, t. 21, f. 30 ... *U. Corrianus*, p. 207, t. 21, f. 60 ... *U. phaseolus*, p. 207, t. 20, f. 50 ... *U. arcus*, p. 207, t. 23, f. 46 ... *U. arctatus*, p. 207, t. 23, f. 47 ... *U. gibbosus*, p. 207, t. 20, f. 54 ... *U. arctior*, p. 208, t. 22, f. 46 ... *U. Patagonicus*, p. 208, t. 22, f. 16 ... *U. Vaughanianus*, p. 208, t. 22, f. 48 ... *U. purpuratus*, p. 208, t. 22, f. 5 ... *U. rhombeus*, p. 208, t. 22, f. 20 ... *U. cuprinus*, p. 208, t. 22, f. 7 ... *U. Modioliformis*, p. 209, t. 23, f. 37 ... *U. Tappanianus*, t. 21, f. 38 ... *U. contradens*, p. 209, t. 22, f. 8 ... *U. stramineus*, p. 209, t. 23, f. 45 ... *U. crassissimus*, p. 209, t. 23, f. 54 ... *U. monodontus*, p. 210, t. 23, f. 48 ... *U. emarginatus*, p. 210, t. 21, f. 58 ... *U. (Alasmodon) complanatus*, p. 210, t. 21, f. 9 ... *U. confragosus*, p. 210, t. 23, f. 52 ... *U. arcula*, p. 210, t. 22, f. 49 ... *U. (Alasmodon) marginatus*, var. (?) *truncata*, p. 211, t. 21, f. 23 ... *U. rugosus*, p. 211, t. 21, f. 8 ... *U. deltoideas*, p. 211, t. 22, f. 50 ... *U. Swananoensis*, p. 211, t. 23, f. 39 ... *U. (Alasmodon) radiatus*, p. 212, t. 23, f. 44 ... *U. calceolus*, p. 212, t. 22, f. 23 ... *U. Bonellii*, p. 212, t. 23, f. 59 ... *U. Paraguayanus*, t. 22, f. 17 ... *U. Parchappii*, p. 212, t. 22, f. 13 ... *U. Corrientesinensis*, p. 212, t. 22, f. 15 ... *U. Guarayanus*, p. 213, t. 22, f. 14 ... *U. fossiculiferus*, p. 213, t. 22, f. 19 ... *U. Minuanus*, p. 213, t. 22, f. 18 ... *U. Holstonianus*, p. 213, t. 22, f. 44 ... *U. fabula*, p. 213, t. 22, f. 45 ... *U. bialatus*, p. 214, t. 22, f. 4 ... *U. discoideus*, p. 214, t. 21, f. 57.

A. A. *Symphonote Uniones proper* (p. 174).

UNIO DELPHINUS (t. 20, f. 44), *Gruner, Wieg. Arc.* 1841, t. 11, f. 1. —*Del.* t. 19, f. 3. — *Lea, Am. Ph. Tr.* 8, t. 17; on *U.* 3, p. 56. Elongated, with an acutangular fin-like projection of the anterior dorsal outline; very inequilateral, rather thin (the wing extremely fragile), compressed, dark brown, nearly smooth; ventral edge convex, curving obliquely upwards behind; hinder dorsal edge rectilinear, usually angulated at the extremity; front extremity subtruncated-cuneiform; umbonal ridge rendered subangular above by the concavity of the anterior slope; nacre iridescent, silvery white; cardinal teeth small, crenulated; lateral teeth very long and straight, 2 (nearly 4 with the fin)...5. *Malacca.*

UNIO DELPHINULUS (t. 23, f. 60), *Morelet, Test. Novis.* 1, p. 31. Elongated-oblong, with a shortish fin-like dorsal wing, inequilateral, very thin, compressed, smooth, olivaceous-yellow or pistachio-green, with a few radiating darker lines on the vicinity of the beaks; ventral edge curving upwards behind; wing quite as broad as high, arcuated in front, incurved behind; anterior slope concave; anterior extremity briefly sublinguiform; posterior dorsal corner angular, disposed to alation; umbones flat; beaks not raised; nacre silvery; teeth laminar, the lateral ones transversely striated.  $1\frac{1}{10}$  (with the fin  $1\frac{1}{2}$ ) ...2 $\frac{1}{2}$ . *Yucatan.*

A. B. \* to \*\*\* *Non-symphonote nodulous spinous or plicated Uniones proper.*

UNIO INTERMEDIUS (t. 20, f. 28), *Conrad, Mon. U.* t. 35, f. 2. Transversely subquadrate, very inequilateral, thick, at most subventricose, ochraceous-yellow, speckled all over with most crowded minute angular dark green markings, a few of which (on the posterior side) are larger than the rest; larger anterior moiety nodulous, posterior half smooth or with very indistinct incremental plicæ; nodules divergent and linear on the anterior slope, elsewhere tear-shaped; umbonal ridge preceded by a shallow groove, whose extremity is indented: ventral edge arcuated; posterior side very short, rounded both above and below; umbones a little prominent, eroded, when young with 2 or 3 anterior pliciform waves; nacre white or flesh-coloured; teeth solid, the lateral ones rectilinear.  $1\frac{2}{3}$ ...2. *N. Carolina.*

UNIO SEMIGRANOSUS (t. 20, f. 33), *Von dem Busch in Phil. N. C.* 1, p. 19, *U.* t. 1, f. 1, 2, 3. Transversely ovate, inequilateral, solid, ventricose, pitch-brown, not rayed, finely and most closely granulated in the umbonal region, elsewhere smooth; ventral edge more



or less arcuated; umbones eroded; nacre purple; cardinal teeth solid, trigonal, jagged; lateral straight.  $1\frac{7}{8} \dots 2\frac{1}{2}$ . *Mexico*. The specimen delineated appears an abnormal form, being produced and bluntly subcuneiform in front, and very short and convex behind: judging from the lines of growth this is not always the case. The *U. Crocodilorum* of Morelet is nearly allied, but the shape is oblong, the surface grooved behind, and the teeth less solid and triangular.

*UNIO COLLINUS* (t. 20, f. 57), *Conr. Mon. U.* t. 36, f. 2. Suboval, slightly subtrapeziform when mature, subinequilateral, not solid, at most subventricose, not distinctly rayed; when young ochraceous, smooth, and armed in the umbonal region with a few short spines behind the inconspicuous umbonal ridge; when aged olivaceous-brown, unarmed, with concentric wrinkles of increase; ventral edge changing from convex to retuse, subparallel with the slightly convex front dorsal margin; front extremity broadish, angulated dorsally, rounded ventrally; hinder extremity unsymmetrically rounded; umbones eroded (in the adult), not prominent; nacre tinged with flesh-colour; cardinal teeth oblique, 2 in each valve.  $1\frac{1}{2} \dots 2$ . *Virginia*.

*UNIO SCOBINA* (t. 23, f. 40), *Benson, MS.* Oblong, inequilateral, moderately thick, rather compressed, with a dark green ray on the anterior slope, densely covered with raised corrugations, which, upon the simple umbonal slope are disposed in somewhat transverse divergent curved narrow folds, are angularly met beyond it by similar raised wrinkles, are arranged upon the hinder extremity in short subtransverse angularly flexuous lines, and elsewhere are broken into short zigzags, or angular dots (like a worn out rasp); dorsal and ventral edges subparallel, the latter straightish, a little retuse; anterior side bluntly biangulated; umbones eroded, not prominent; nacre bluish, iridescent in front; anterior lateral tooth elongated, posterior lateral tooth very short, much elevated.  $\frac{7}{8} \dots 1\frac{1}{2}$ . *Assam*. The primary tooth in the only valve known to me is a mere callus.

*UNIO RADULA* (t. 23, f. 41), *Benson, MS.* Transversely oboval, inequilateral, not very thick, rather compressed, olivaceous, sculptured as in *U. scobina*, but rather more linearly and transversely; ventral and front dorsal edges convex and subparallel; hinder extremity rounded, narrower: umbonal ridge inconspicuous, umbonal slope simple; neither the eroded umbones nor the ligament prominent; nacre bluish; umbonal cavity shallow; hinder tooth strong, complicated; front lateral tooth elongated, a little curved.  $\frac{3}{4} \dots 1\frac{1}{2}$ . *Assam*.

*UNIO CUCUMOIDES* (t. 24, f. 4), *Lea, Trans. Am. Phil. Soc.* 8, t. 7, f. 2; on *U.* 3, p. 30. Very elongated, subcylindrical, scarcely

curved, compressed, extremely inequilateral, rather thick (not solid), obliquely and very bluntly subbiangulated in front, narrowly rounded behind, of an uniform brownish black, adorned with numerous subangular isolated tubercular divergent undulations upon, and in front of, the broad and rounded (yet not elevated) umbonal ridge, beyond which the surface is abruptly flattened, closely and coarsely grained (or finely tuberculated), and then merely wrinkled by the lines of growth; ventral edge retuse behind the middle; umbones not at all prominent: inside silvery; cardinal teeth small, yet strong. 2...5. *Australia*.

UNIO HEMBELI (t. 24, f. 3), *Conrad, Mon. U. p. 93, t. 51*. Oblong-elliptical, very inequilateral, rounded behind, bluntly subcuneiform (when adult) in front, moderately strong, compressed, of an uniform pitch-brown, concentrically wrinkled, and studded with somewhat divergently disposed tubercular elevations on the ordinary site of the umbonal ridge; ventral edge retuse in the middle; ligamental edge convex; umbones eroded, scarcely projecting above the dorsal line; ligament long, tawny; inside white; cardinal teeth solid; lateral crenulated. 1½...3¼. *Louisiana*.

A. B. \*\*\*\* *Non-symphonote smooth or concentrically sulcated*  
*Uniones proper.*

UNIO SICULUS (t. 20, f. 19), *Swainson, Malac. p. 282, f. 58*. Produced-oblong, very inequilateral, thick, subventricose, yellowish olive arranged in lighter and darker concentric shades, not rayed, smooth (except the lines of growth); ventral edge retuse in the middle, rising in an oblique curve posteriorly: anterior extremity very bluntly subcuneiform, ligamental edge subparallel with the ventral; hinder side occupying two-sevenths only of the total measurement, its extremity subangulated dorsally, rounded ventrally; no conspicuous umbonal ridge; umbones little raised, the corrugations indistinct: nacre white, umbonal cavity tolerably ample; the inner cardinal teeth large, solid, jagged. 1½...3¼. *Sicily*. The specimen described came from Lake Leontini, and was, I believe, one of Swainson's. Lea, perchance correctly, refers the species to *U. pictorum*.

UNIO SUBPLANUS (t. 21, f. 16), *Conr. Mon. U. t. 41, f. 1*. Semi-rhombic-oval, moderately inequilateral, subbiangulated in front, rounded behind, thickish, subcompressed, pitch-brown, not rayed, smoothish; umbonal ridge inconspicuous; ventral edge arcuated behind, subparallel in front to the scarcely convex anterior dorsal edge; umbones eroded, not prominent; cardinal teeth strong, triangular; lateral teeth elongated. 1½...2. *Virginia*.

UNIO ATRATUS (t. 21, f. 18), *Lea* (as of *Sw.*).—U. AURATUS, *Phil.* (as NAIA A. of *Sw.*) *N. C.* 3, *Un.* t. 4, f. 1.—U. ARAUCANA, *Phil.* *N. C.* 3, p. 50, *Un.* t. 4, f. 3. Oblong or ovate-oblong, inequilateral, not thick, convex or rather compressed, when adult greenish black, when young olivaceous-yellow changing to green anteriorly, nearly smooth, polished; front dorsal and ventral edges convex, subparallel, the latter rising behind in an arch; both extremities a little attenuated, the front one more or less subangulated, the hinder one rounded; beaks at about two-thirds the distance from the anterior end; umbones eroded when mature, rayed with short narrow folds when young; nacre bluish; hinder teeth compressed, rugged, moderately elevated.  $1\frac{1}{2}$ ... $2\frac{1}{2}$ . *Chili*. Usually thickly encrusted with ferruginous matter. I am not aware that Swainson ever published the species; it is the "NAIA FRAGILIS, *Sw.*" of collectors, and the "N. ATRATA, *Sw.*" of *Lea*.<sup>1</sup>

UNIO FONTAINEANUS (t. 21, f. 27), *D'Orb. Am.* p. 605, t. 69, f. 6, 7. Obovate-rhomboid, rather compressed, thickish, blackish olive, not rayed, with close and numerous concentric wrinkles of increase; ventral edge obliquely curving up behind; anterior side dilated, subangulated above, rounded below, ligamental edge convex, a little elevated; hinder side very narrow, rounded; umbones oblique; umbonal ridge not raised; the anterior slope ample, subretuse; beaks eroded, when young with longitudinal corrugations; ligament produced; nacre bluish; primary teeth striated, sublaminar; lateral teeth arcuated.  $2\frac{1}{2}$ ...3. *S. America*. Is assuredly only a produced variety of the *U. rotundus* (*Moricand Mem. Coq.* p. 49, t. 4, f. 12, 3, 4 (as *Diplodon r.* of *Spix*), of which the *U. variabilis* (p. 202) is stated to be the young.

UNIO AURATUS (t. 21, f. 29).—NAIA A. *Swainson*, from types. Elongated oblong, slightly arcuated, very inequilateral, thick, subventricose (yet the surface a little flattened in the middle), of a somewhat golden brown, not rayed, very coarsely wrinkled in a concentric direction; ventral edge retuse, subparallel with the somewhat arcuated ligamental edge, curving upwards behind; posterior end short and abruptly rounded; anterior extremity gradually rounded, the front margin arched and sloping; umbonal area simple; umbones not much raised, radiated with short divergent folds; lunule acutely edged; ligament tawny-brown, very long, prominent: inside wholly

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<sup>1</sup> The description of *U. atratus*, at page 199, was taken from Swainson's *U.* (not *Naia*) *fragilis*, and consequently belongs to *U. gracilis*.

white, cardinal teeth strong and jagged, lateral teeth remote; no infra-umbonal cavity.  $1\frac{1}{2}$ ... $2\frac{1}{2}$ . *S. America*.

UNIO CAFFER (t. 21, f. 40), *Krauss, Sudaf.* p. 18, t. 1, f. 14. Small, ovate-oblong, convex, solid, olivaceous, striated with concentric wrinkles, and marked with 2 obsolete lines that run from the beaks to the front extremity of the straightish ventral edge; dorsal edges slightly curved; both extremities rounded; the anterior side the broader, thrice as long as the posterior; inside pale flesh-colour, pearly; primary teeth 2, the hinder in one of the valves oblique compressed and sulcated, the other obsolete.  $1\frac{1}{2}$ . *Natal*.

UNIO INVOLUTUS (t. 23, f. 19), *Benson, MS.* Peaked-ovate, not so very inequilateral, compressed in front, swollen in the umbonal region, thin, polished, rather pale green, very obscurely subradiated ventrally with ochre-yellow, rather tinged with blue dorsally, marked with 2 or 3 dark green lines on the anterior slope, partially marked with some close and regular shallow groove-like posterior wrinkles, elsewhere smooth; ventral edge strongly arcuated and much rising behind, less curved yet almost equally rising in front; anterior side tapering to a blunt subcentral peak, no umbonal ridge; hinder dorsal edge nearly straight, scarcely sloping; umbones swollen, prominent, with a few longitudinal corrugations; beaks incurved; nacre silvery; umbonal cavity ample; lateral teeth large, laminar, raised, the shorter one very elevated at its extremity.  $1\frac{1}{2}$ ... $1\frac{1}{2}$ . *Assam*. In the single specimen described from, there is no cardinal tooth, but the hinge-plate is elevated beneath the umbones.

UNIO ASCIA (t. 23, f. 20), *Benson, MS.* Oval-subtrapeziform, inequilateral, moderately strong, subventricose, glossy, ochraceous-olive-colour, with concentric wrinkles; ventral and dorsal edges convex, the former rising posteriorly, the latter but little sloping; anterior extremity very bluntly biangulated; hinder dorsal corner angular; umbonal slope broad, with a few divergent corrugations near the much eroded umbones, divided into 2 distinct concavities by an obscure radiating line; ligament rather elongated, glue-coloured; nacre bluish, subiridescent in front; umbonal cavity shallow; teeth laminar, lateral, rather long, no true central ones. *Penang*. Besides the concentric wrinkles, which are chiefly conspicuous anteriorly, there are minute and subparallel scratches in their intervals.

UNIO VELARIS (t. 23, f. 42), *Benson, MS.* Obovate-subtrigonal, oblique, winged, not so very inequilateral, very thin, smooth, sub-cuneiform in convexity, being swollen in front (except the dorsal corner), and compressed behind; cuticle very thin, with a silky gloss, ochraceous-olive, with a dark green narrow ray or two on the broad concave umbonal slope; ventral edge straightish in the middle,

arched and rising at either end; dorsal edge subrectilinear, rising gradually but decidedly from behind; anterior side very broad, the wing much elevated; posterior side narrow: no conspicuous umbonal ridge; umbones oblique, not much projecting; ligament narrow; nacre silvery, with a pinkish tinge, especially in front; teeth produced, laminar, lateral.  $1\frac{1}{2}$ ...2. *Bugis, Celebes. The umbones are a little eroded in the only example known to me. It is, probably, identical with the U. superbus of Lea (Am. Ph. Tr. 9, pl. 42, f. 11), yet his description does not exactly apply.*

UNIO CORBIS (t. 23, f. 43), *Benson, MS.* Oval, inequilateral, rather thin, subventricose, concentrically zoned with bluish green and ochraceous-yellow, rather glossy, smooth, except at the umbones, which are adorned with longitudinally divergent slender corrugations, the hinder lines of which incline anteriorwards, the front ones posteriorwards; a few similar wrinkles radiate subtransversely thence to the dorsal end of the concave anterior slope; ventral edge convex; front dorsal edge straightish, a little elevated; extremities rounded, the front one rather broad; nacre silvery; umbonal cavity ample; teeth laminar, compressed.  $\frac{3}{4}$ ... $1\frac{1}{4}$ . *Assam. Described from a single valve.*

UNIO AMENUS (t. 24, f. 9), *Lea, Trans. Am. Phil. Soc. t. 10, f. 12; on U. 3, p. 38.* Oblong or oblong-elliptical, very inequilateral, not very thick, rather compressed, rounded at both ends, ochraceous-yellow with numerous dark green rays, that are linear or obsolete behind, and broader in front, nearly smooth; ventral edge retuse in the middle; no umbonal ridge; umbones oblique, eroded, not elevated above the dorsal line; inside white, iridescent; cardinal teeth solid.  $1$ ... $2\frac{1}{2}$ . *Tennessee.*

B. (*Margaritana* = *modonta*). *No lateral teeth (p. 210).*

UNIO CURREYANUS (t. 24, f. 10).—MARGARITANA C. *Lea, Trans. Am. Phil. Soc. 8, t. 18, f. 40; on U. 3, p. 61.* Small, transversely oblong subtrigonal, peaked or subrostrated in front, bluntly rounded behind, subinequilateral, solid, somewhat compressed, with a yellowish brown cuticle, not variegated, concentrically wrinkled, with 2 or 3 enormous tubercular undulations on the umbonal region, from which radiate two blunt umbonal ridges (the dorsal one projecting more outwards), the area between which is retuse, and the margin behind each of which is indented; ligamental edge not much sloping; ligament short; inside white, reddish salmon-coloured, or purplish liver-coloured; cardinal teeth strong, no lateral ones.  $\frac{3}{4}$ ... $1\frac{1}{2}$ . *Tennessee.*

*Hyria avicularis*, p. 214, t. 24, f. 11.

On *ANODONTA* (p. 215). Lea, in his third edition of the 'Naiades,' has added the following species: *A. argentea* (Lea, Am. Ph. Tr. vol. 8), *ferruginea* (do.), *Harpethensis* (do.), *Couperiana* (do.), *globosa* (do.), *Maryattana* (do.), *Montezuma* (do.), *Footiana* (do.), *Dunlapiana* (do.), *Californiensis* (do. in vol. x.), *tortilis* (do.), *denigrata* (do.), *oblita* (do.), *virens* (do.), *Linneana* (do.), *opaca* (do.), *Wheatleyi* (do.), *Schröteriana* (do.), *crepera* (Lea in Z. P. 1850), *Cumingii* (do.), *subcrassa* (do.), *gracilis* (do.), *tenuis* (do.), *polita* (Mousson, Java), *solidula* (Dewille and Huppé in Mag. Z.), *Puelchana* (D'Orb. S. Am.), *lucida* (do.). Examine, likewise, Ann. Nat. H. 1842, Kuster's edition of Chemnitz, Chenu's 'Illustrations Conchyliologiques,' Proc. Bost. vol. 1, 2, 3, J. Conch. vol. 1, Morelet's 'Testacea Novissima,' Sil. J. n. s. 6, and Middendorff's 'Zoologie' of his 'Reise, &c. Sibiriens.'

*Anodonta Wahlamatensis*, p. 215, t. 24, f. 13 ... *A. latomarginata*, p. 221, t. 24, f. 14 ... *A. Blainvilliana*, p. 222, t. 24, f. 18 ... *A. angulata*, p. 222, t. 24, f. 15 ... *A. ensiformis*, p. 223, t. 24, f. 17 ... *A. sinuata*, p. 224, t. 24, f. 16.

On *CHAMA* (p. 226). Consult Reeve's monograph (Conch. Ic.); see, likewise, Ann. Lyc. N. York, 5, and Zeit. Mal. 1846.

*Chama pellucida*, p. 228, t. 24, f. 19.

*Cleidotherus Chamoides*, p. 228, t. 24, f. 20.

*Tridacna serrifera*, p. 232, t. 24, f. 21.

On *MODIOLA* (p. 232). At page 237 there is an important error. The description of *M. elongata* has been attached to *M. cuneiformis*, erroneously alleged to have been published in the Z. P. 1844. The description of *M. elongata*, on the contrary, was drawn up from a new species (at least it was so in 1843—I know no name for it even now—when that part of the book was printed) from the Gambia. The error having been detected by the author, the *M. cuneiformis* was not inserted in the Zoological Proceedings. The synonym of "Gould Mas." should be omitted from *M. discrepans* (p. 242); his species is certainly distinct from our British one. Numerous additional species have appeared during the last few years. Consult Proc. Philad. 3, Krauss's Sud-Af. Mol., D'Orb. S. Am. and Cuba Shells, Proc. Bost. 3, 4, Ph. Sic. 2 (and his 'Abbildungen'), the Zeit. Mal. 1844, 1847, 1848, 1849, 1851, Möllers's Mol. Græn. and Middendorff's Mal. Ros.

*Modiola Metcalfei*, p. 235, t. 24, f. 25 ... *M. Philippinarum*, p. 235, t. 24, f. 26 ... *M. trapesina*, p. 237, t. 24, f. 27 ... *M. (Lithodomus) cinnamomea*, p. 238, t. 24, f. 24 ... *M. (Lithodomus) canalifera*, p. 239, t. 24, f. 22 ... *M. plumula*, p. 239, t. 24, f. 23 ... *M. elongata* (as *cuneiformis*, p. 237), t. 24,

f. 28 ... *M. striatula*, p. 241, t. 24, f. 29 ... *M. subramosa*, p. 241 t. 24, f. 30.

On MYTILUS (p. 243). For additional species consult Zeit. Mal. 1846, 1847, 1848, An. Nat. 1842, Kuster's edition of Ohemnitz, Rev. Zool. Cuv. 1848, 1849 (article Septifer), Krauss's Sud-Af. Mol., J. Conch. 3, 4, Proc. Bost. 3, 4, D'Orb. S. Am. and Cuba Shells.

*Mytilus hirsutus*, p. 244, t. 24, f. 32 ... *M. granulatus*, p. 246, t. 24, f. 33 ... *M. strigatus* of Hinds' MSS.<sup>1</sup> p. 251, t. 24, f. 34 ... *M. (Dreissena) leucophæatus*, p. 251, t. 24, f. 31.

On PINNA (p. 251). See, likewise, Ph. Sic. 2, D'Orb. S. Am., Proc. Bost. 3, Zeit. Mal. 1852.

*Pinna saccata*, p. 253, t. 24, f. 35 ... *P. atropurpurea*, p. 255, t. 24, f. 36.

On CRENATULA (p. 256). See, likewise, Schrift. Berlin. Gesel. 2, Beschäft. Berlin. 3, Savigny's Egypt, Mol. pl. 12, and Zeit. Mal. 1851.

On PERNA (p. 257). See, likewise, Krauss's Sud-Af., Wieg. Arch. 1837, Proc. Bost. 2, 3, and D'Orbigny's Cuba Shells.

*Perna costellata*, p. 259, t. 24, f. 37.

*Malleus albus*, p. 260, t. 24, f. 38.

On AVICULA (p. 261). See, likewise, Zeit. Mal. 1848, 1849, 1851, 1852, Proc. Bost. 3, 4, and D'Orb. Cuba Shells.

*Avicula semisagitta*, p. 261, t. 24, f. 39.

On MELEAGRINA (p. 264). See, likewise, Zeit. Mal. 1849, 1852, Sw. Z. I. S. 2, t. 55, and D'Orb. Cuba Shells.

MELEAGRINA MAZATLANICA (t. 24, f. 40). Large, solid, subventricose, more or less oblique, more or less projecting behind ventrally, longer than broad, squarish above in front; rounded ventrally, yellowish olive, with rather faint pallid rays; the rather distant concentric lamellæ somewhat closely fringed with moderately large peaked concave vandyked scales; ventral edge much arcuated, rising in front; anterior margin not retuse, but either straightish or convex, forming nearly a rectangle with the rather short straight and rising dorsal line; hinder gape ample, the posterior dorsal incurvation being full, and the auricle rather large and deep; nacre bluish white, broadly edged with the external colouring. 5...4½. Mazatlan. Distinguished from *meleagritifera* by its scales, obliquity, colour, and by not being retuse in front.

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<sup>1</sup> Was designed by Hinds to have been published in the Zoological Proceedings, but his intention was not carried into execution: it has been subsequently termed *falcatus* by D'Orbigny (S. Am.).

On LIMA (p. 265). See D'Orb. S. Am. and Cuba Shells, and Proc. Bost. 2, 4.

*Lima bullata*, p. 266, t. 24, f. 41 ... *L. ventricosa*, p. 267, t. 24, f. 42.

On PECTEN (p. 268). Consult the monograph by Reeve (Conch. Ic.): see, too, Zeit. Mal. 1850, 1851, the Mollusca of the 'Voyage de la Venus,' Proc. Bost. 3, Loven's Moll. Scand., J. Philad. n. s. 1, J. Conch. 3, 4, Sil. J. n. s. 6, Dunker's Guinea Shells and D'Orb. S. Am.

*Pecten latiauritus*, p. 275, t. 24, f. 43.

*Plicatula Australis*, p. 288, t. 24, f. 44.

On SPONDYLUS (p. 289). Consult the monograph by Reeve (Conch. Icon.).

*Spondylus Sinensis*, p. 294, t. 24, f. 45 ... *S. Gussoni*, p. 295, t. 24, f. 46.

On OSTREA (p. 295). See, likewise, *O. Guineensis* of Dunker's Moll. Guin. and *O. Æquatorialis* and *Puelchana* of D'Orb. S. Am.

*Ostrea Adriatica*, p. 296, t. 24, f. 47 ... *O. rosacea*, p. 300, t. 24, f. 48.

*Vulsella ovata*, p. 311, t. 24, f. 49.

*Placuna papyracea*, p. 312, t. 24, f. 50.

*Anomia Elyros*, p. 314, t. 24, f. 51 ... *A. ænigmatica*, p. 313, t. 24, f. 52.

*Orbicula lævis*, p. 317, t. 24, f. 53 ... *O. lamellosa*, p. 317, t. 24, f. 54.

*Terebratula rubicunda*, p. 324, t. 24, f. 55 ... *T. Septentrionalis*, p. 329, t. 24, f. 56 ... *T. Californica*, p. 322, t. 24, f. 57 ... *T. (Magas?) Cumingii*, p. 331, t. 24, f. 59 ... *T. pisum*, p. 328, t. 24, f. 58.

*Lingula hians*, p. 333, t. 24, f. 60.





## SEQUENCE OF THE GENERA.

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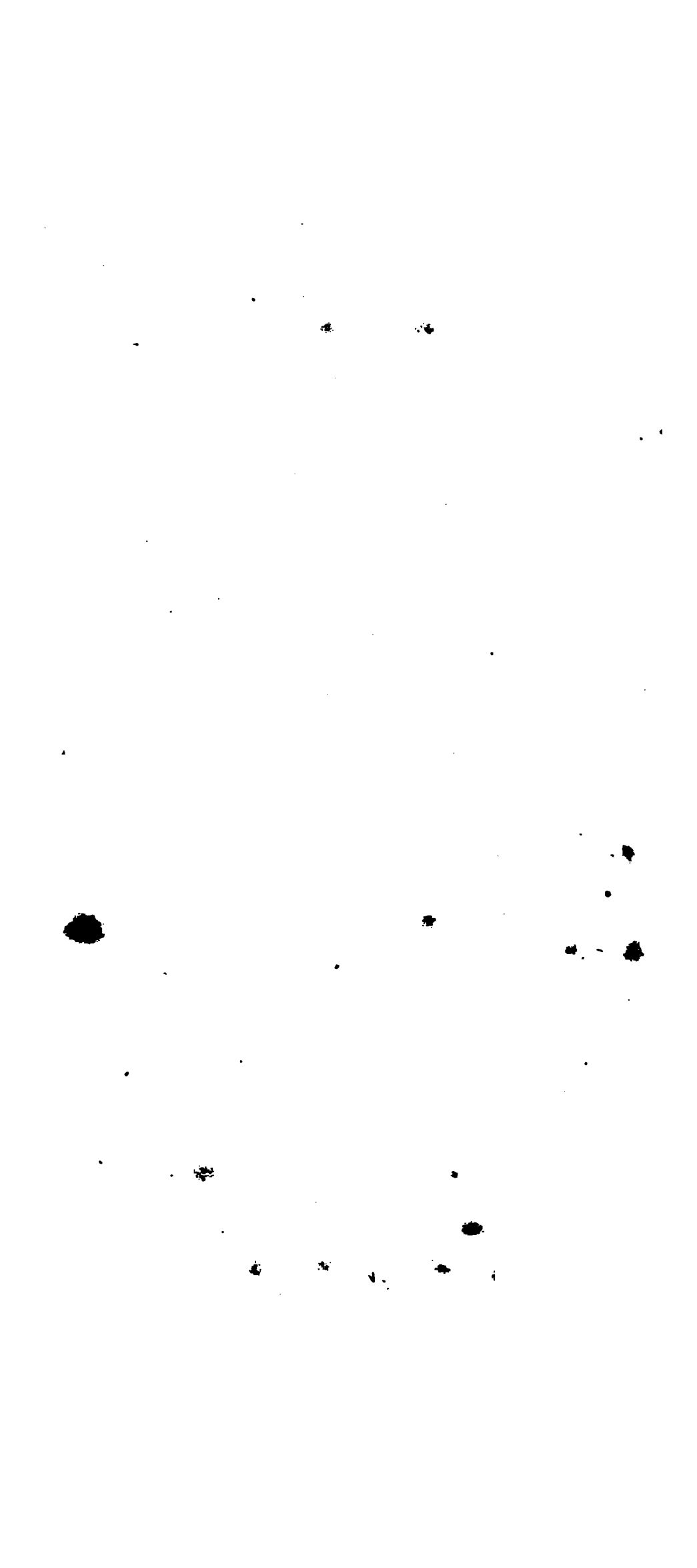
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 Placuna, 311, 389  
 Anomia, 312, 389  
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 Discina (= Orbicula), 317, 389  
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A LIST  
OF  
THE SPECIES DELINEATED IN THE  
SUPPLEMENTARY PLATES  
OF THE  
DESCRIPTIVE AND ILLUSTRATIVE  
CATALOGUE OF SHELLS.

PLATE IX.

- |   |   |
|---|---|
| 1 Mactra Truncata p. 32                       | 12 Crassatella Subradiata ?                 |
| 2 Lucina Columbella p. 77                     | var. p. 36                                  |
| 3 Tellina Brasiliana p. 70                    | 13 Cytherea Sulcatina p. 99                 |
| 4 Tellina Pristis p. 69                       | 14 Venus Punctifera p. 121                  |
| 5 Saxicava Rugosa, var. Gal-<br>licana p. 50. | 15 Cyclas Cornea p. 89                      |
| 6 Ervilia Nitens p. 43                        | 16 Solen Solidus p. 15                      |
| 7 Venus Macrodon p. 116                       | 17 Tellina Balaustina p. 72                 |
| 8 Venus Petalina p. 124                       | 18 Tellinides Purpureus p. 74               |
| 9 Tellina Sulphurea p. 62                     | 19 Solen Dombeyi p. 13                      |
| 10 Cytherea Lubrica p. 104                    | 20 Thracia Corbuloides p. 22                |
| 11 Cytherea Rosea p. 104                      | 21 Clavagella Aperta, <i>Sheath</i><br>p. 2 |

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| 21 22 Ditto— <i>free valve</i> p. 2 | 40 41 Gastrochæna Truncata       |
| 22 23 Clavagella Australis p. 2     | p. 10                            |
| 23 24 Aspergillum Vaginiferum       | 41 42 Galeomna Turtoni p. 59     |
| p. 1                                | 42 43 Gastrochæna Ovata p. 10    |
| 24 25 Panopæa Australis p. 18       | 43 44 Pholas Californica p. 8    |
| 25 26 Galeomna Aurantia (Psam-      | 44 45 Pholas Campechensis p. 6   |
| mobia A. p. 58                      | 45 46 Lucina Rugifera p. 79      |
| 26 27 Pholas Truncata p. 6          | 46 47 Anatina Elliptica p. 23    |
| 27 28 Crassina Castanea p. 88       | 47 48 Lutraria (Lepton) Squa-    |
| 28 29 Solen Costatus p. 15          | mosa p. 28                       |
| 29 30 Venerupis Exotica of Sow-     | 48 49 Kellia Rubra p. 43         |
| erby p. 54                          | 49 50 Teredo Corniformis (a copy |
| 30 31 Pholas Acuminata p. 8         | from Favanne of the figure       |
| 31 32 Crassatella Rostrata p. 36    | cited by Lamarck) p. 4           |
| 32 33 Pandora Trilineata p. 49      | 50 51 Teredo Bipennata p. 4      |
| 33 34 Anatina Leana p. 24           | 51 52 Xylophaga Globosa p. 10    |
| 34 35 Corbula Contracta p. 47       | 52 53 Thracia Similis p. 22      |
| 35 36 Donax Fabagello p. 83         | 53 54 Myodora Ovalis (Anatin     |
| 36 37 Donax Fossor p. 85            | O. p. 25)                        |
| 37 38 Gastrochæna Mytiloides        | 54 55 Aspergillum Novæ Zelan-    |
| p. 10                               | diæ p. 2                         |
| 38 39 Tellina Tenera p. 65          | 55 56 Mesodesma Arctata p. 39    |
| 39 40 Tellina Polita p. 65          | 56 57 Lutraria Cottardi p. 28    |



- 34 *Thracia Conradi* p. 22  
 35 *Thracia Declivis* (T. Phaeolina) p. 22  
 36 *Mactra Australis* p. 32  
 37 *Thracia Plicata* p. 21  
 38 *Mulinia Byronensis* p. 34  
 39 *Mactra Fasciata* (copied from Gualtieri, as cited by Lamarck p. 30  
 40 *Mactra Triangularis* p. 31  
 41 *Mactra Lactea* p. 31  
 42 *Solen Corneus* p. 11  
 43 *Panopæa Arctica* p. 18  
 44 *Ungulina Oblonga* p. 41  
 45 *Pandora Ceylanica* p. 50  
 46 ——— *Oblonga* p. 49  
 47 ——— *Depressa* p. 49  
 48 ——— *Glacialis* p. 49  
 49 ——— *Flexuosa* p. 49  
 50 ——— *Unguiculus* p. 49  
 51 *Corbula Biradiata* p. 47  
 52 ——— *Ovulata* p. 47.  
 53 ——— *Rostrata* (of *Broderip*) p. 46

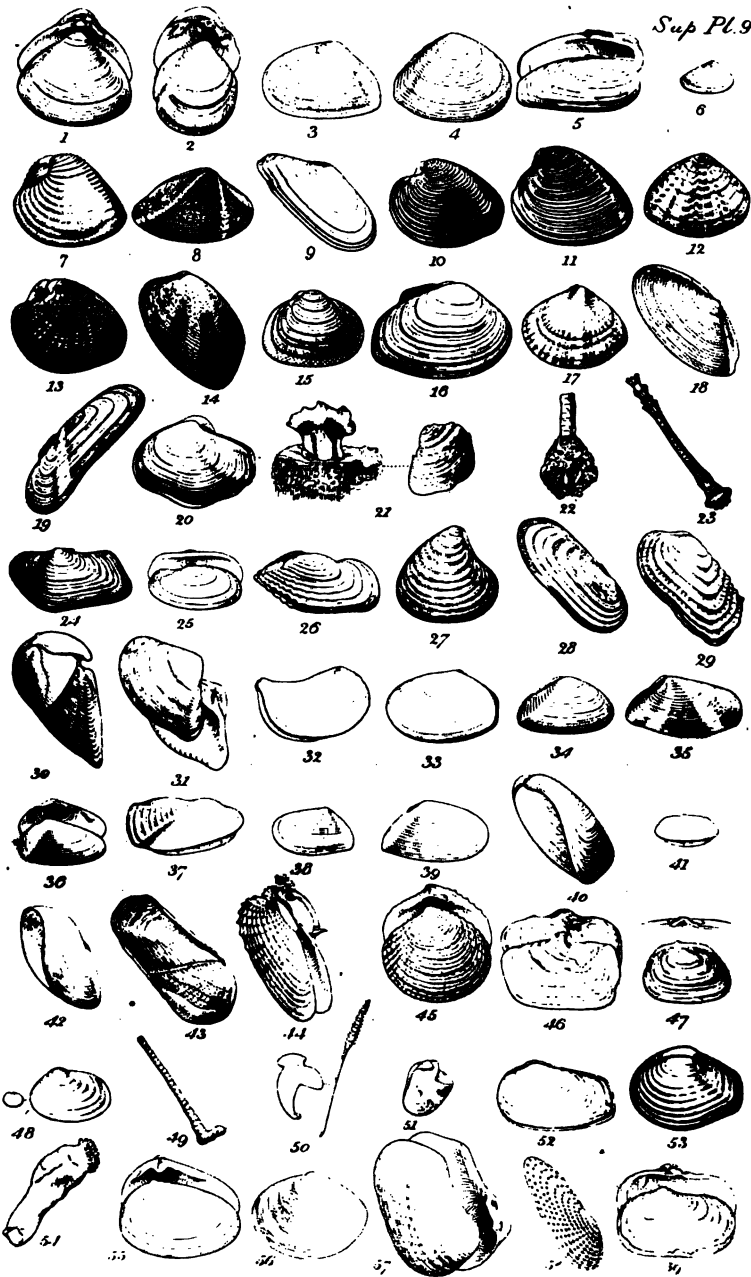
- 54 *Crassatella Triquetra* p. 37  
 55 *Mesodesma Complanata* p. 38  
 56 ——— *Donacia* p. 38  
 57 *Erycina Cardioides* p. 40  
 58 *Crassatella Donacina* p. 36  
 59 ——— *Lapidea* p. 36  
 60 *Mactra Brasiliana* var. p. 31

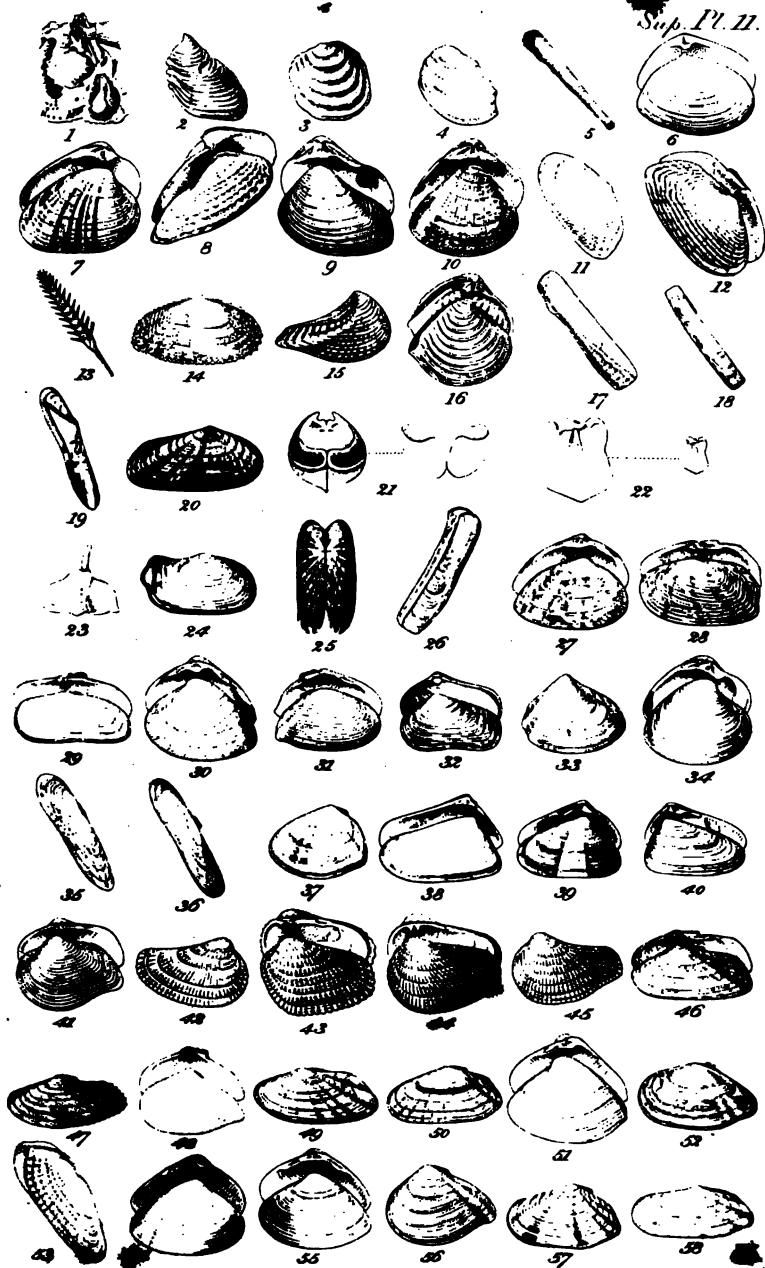
## PLATE XI.

- 1 *Clavagella Elongata* *Sheath* p. 2  
 2 ——— ——— *valve* p. 2  
 3 ——— *Melitensis*, *valve* p. 2  
 4 ——— *Lata* *valve* p. 2  
 5 *Fistulana Clava*, *tube* p. 3  
 6 *Mesodesma Glabella* p. 38  
 7 *Cytherea Impar* p. 98  
 8 *Pholas Clausa* p. 6  
 9 *Crassatella Decipiens*  
 10 *Cytherea Impudica* p. 96  
 11 *Psammobia Tellinella* p.

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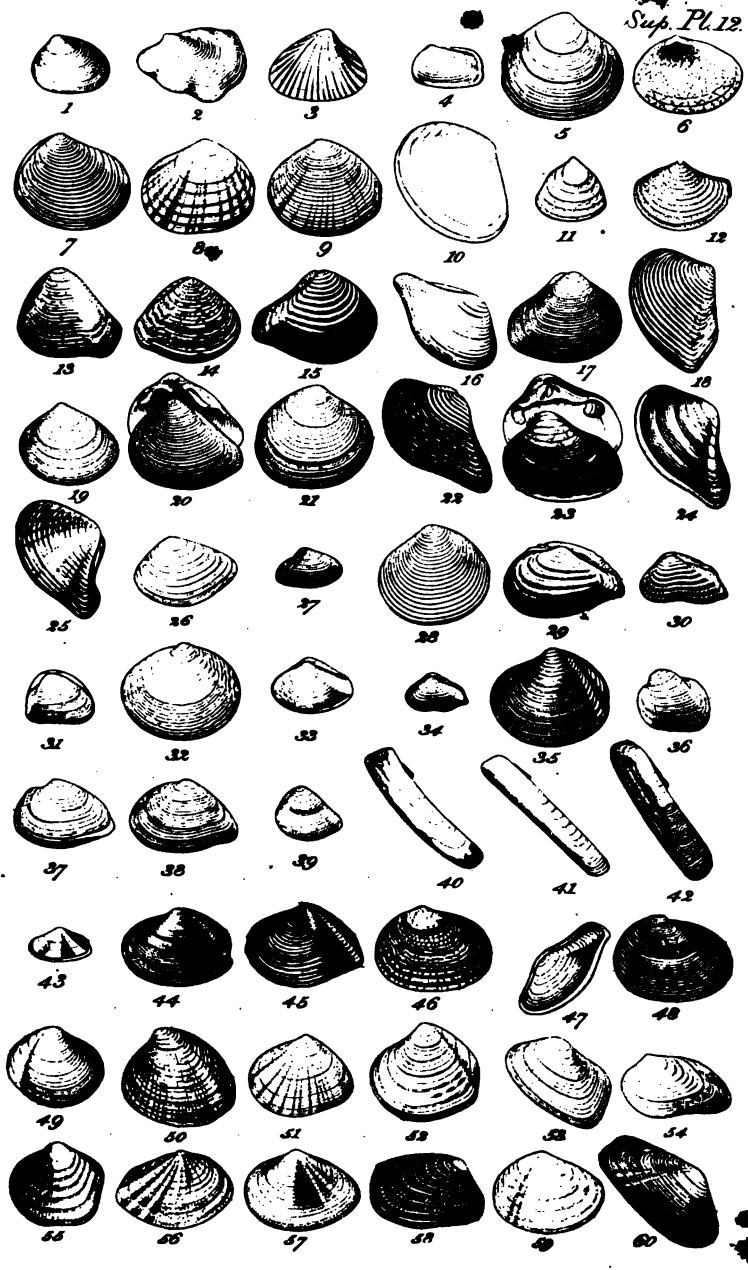
- 12 Psammobia Costata p. 59
- 13 Teredo Palmulata p. 4
- 14 Tellina Pulcherrima p. 67
- 15 Crassatella Radiata p. 37
- 16 Mactra Elegans p. 33
- 17 Solen Ambiguus p. 13
- 18 — Sloanii p. 12
- 19 — Javanicus p. 14
- 20 Psammobia Violacea p. 59
- 21 } Xylophaga Dorsalis p. 37  
22 } 10
- 23 Teredo Nana *magnified*  
p. 4.
- 24 Teredo Nana *natural size*  
p. 4
- 25 Teredo Malleolus *pallet*  
p. 4.
- 26 Anatina Truncata p. 20
- 27 Solemya Australis p. 41
- 28 Solen Scalprum p. 12
- 29 Mactra Maculosa p. 29
- 30 Psammobia Maculosa p. 57
- 31 Solen Candidus p. 15
- 32 Mactra *qualida* p. 31
- 33 Tellina Staurella p. 61
- 34 Corbula Rupicola p. 47
- 35 Lutraria Tellinoides p. 27
- 36 Cytherea Nivea p. 97
- 37 Solen Acuminatus p. 17
- 38 — Acutidens p. 17
- 39 Tellina Sexradiata p. 71
- 40 Donax Trunculus (Capsa  
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- 41 Mesodesma Donacilla p. 39
- 42 Mesodesma Cornea p. 39
- 43 Petricola Semilamellata  
p. 53
- 44 ——— Striata p. 53
- 45 ——— Costellata p. 53
- 46 ——— Roccella p. 53
- 47 ——— Ruperella p. 53
- 48 Psammobia Elongata p. 67
- 49 ——— Squamosa p. 57
- 50 ——— Cayennensis p.  
58
- 51 ——— Fragilis p. 58
- 52 Psammotæa Zonalis p. 60

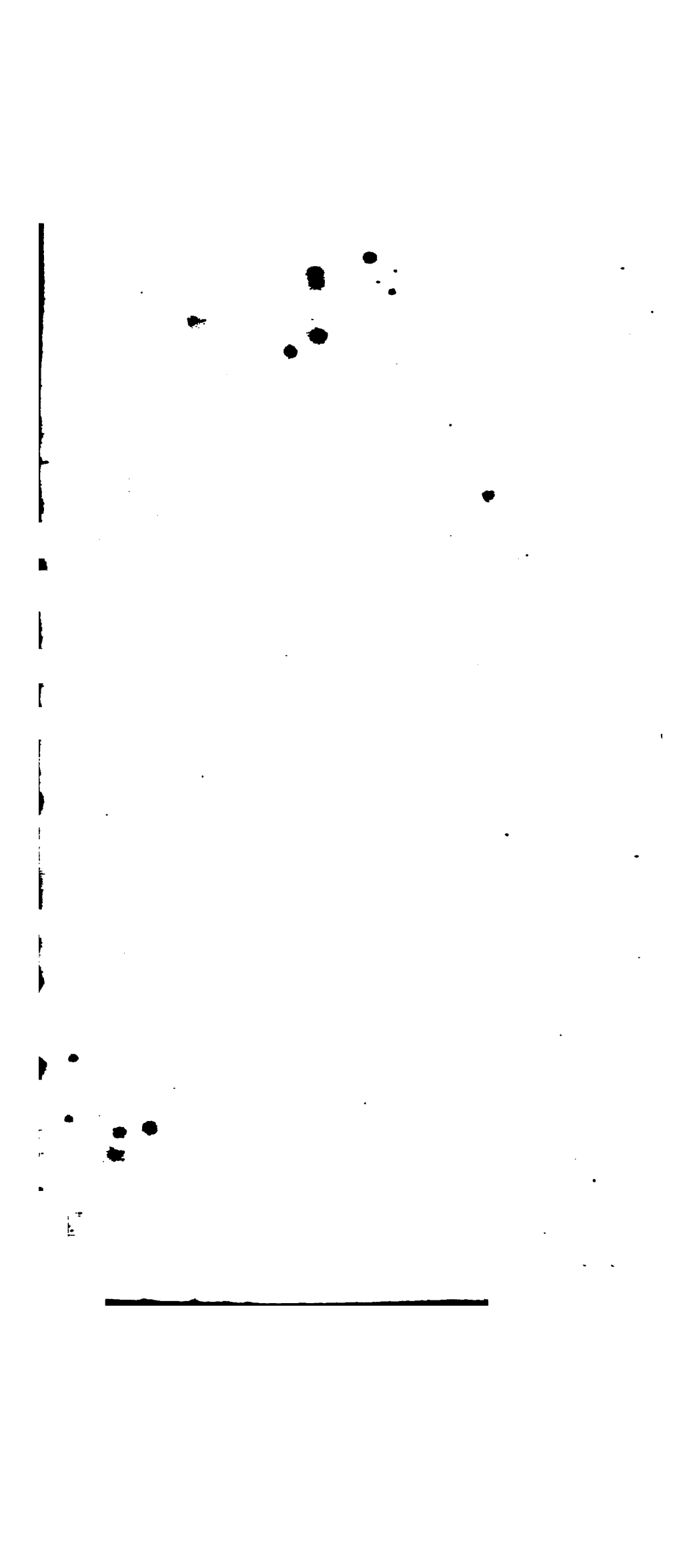
- 51 53 *Mactra Exolus* p. 33  
 52 54 *Sanguinolaria Livida* p. 57  
 55 *Pholas Cnecigera* p. 6.  
 56 *Mactra Lisor* p. 32  
 55 57 ——— *Var. Lilacea* Lam. ?  
                   p. 32  
 56 58 *Psammotea Tarentina* p. 60  
 57 59 ——— *Donacina* p. 60  
 58 60 *Tellina Semizonalis* p. 61

# PLATE XII.

- 1 *Erycina Geoffroyi* p. 40  
 2 *Saxicava Guerini* p. 51  
 3 *Myodora Anomoides* p. 48  
 4 *Corbula (Sphaenia) Bing-*  
       *hami* p. 47  
 5 *Amphidesma Corrugatum*  
       p. 48  
 6 ——— *Pulchrum* p. 45  
 7 ——— *Zebuense* APP.  
 8 ——— *Australe* p. 44  
 9 ——— *Scabrum* APP.  
 10 ——— *Læve* p. 44  
 11 *Mactra Nucleus* p. 34

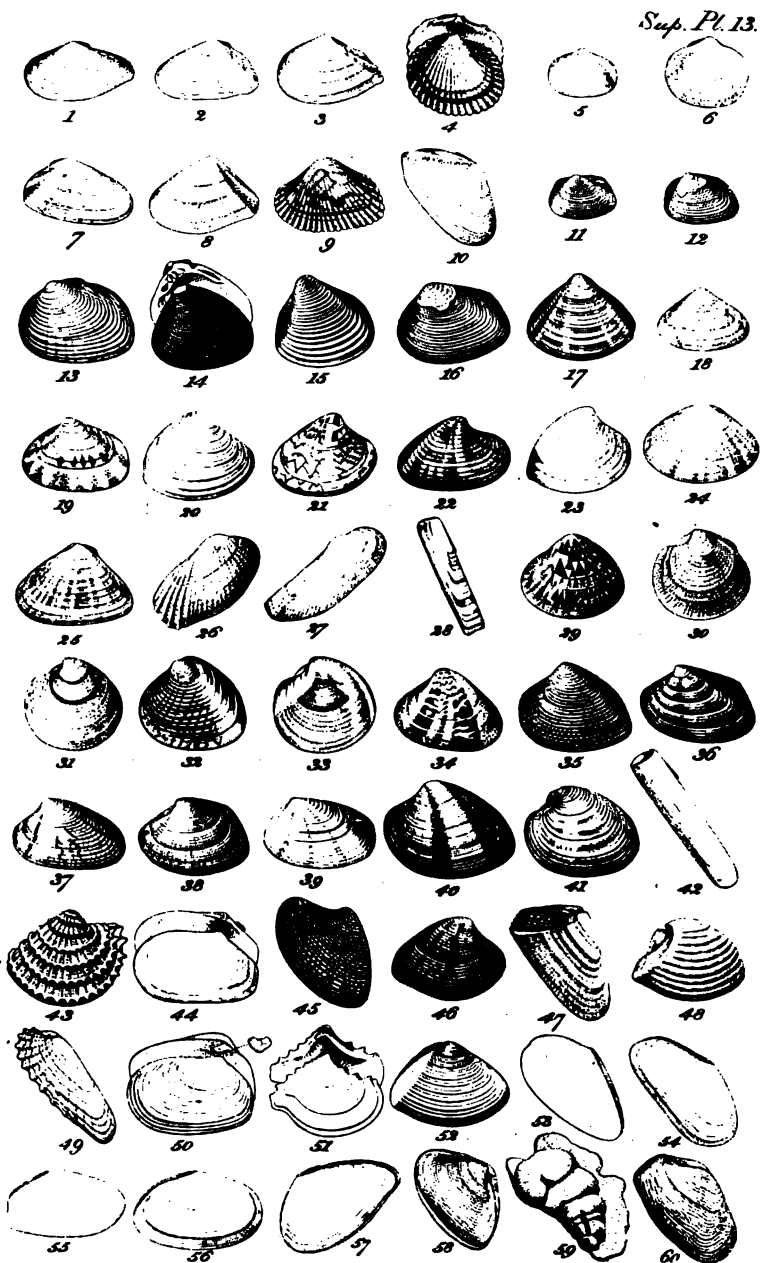
- 12 *Myodora Striata* (*Pandora*  
       *S.*) p. 50  
 13 *Crassatella Ornata* p. 37  
 14 ——— *Subradiata* p. 36  
 15 ——— *Corbuloides* p. 37  
 16 ——— *Gibbosa* p. 37  
 17 ——— *Kingicola* p. 35  
 18 ——— *Pulchra* p. 36  
 19 *Mesodesma Planum* APP.  
 20 ——— *Triquetrum* APP.  
 21 *Amphidesma Corrugatum.*  
       *var. p. 44*  
 22 *Crassatella Sulcata* p. 36  
 23 ——— *Castaneap.* 36  
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 25 ——— *Jubar* p. 37  
 26 *Mesodesma Erycinea* p. 38  
 27 *Corbula Fasciata. Var. APP.*  
 28 *Amphidesma Carnicolor* APP  
 29 *Corbula Crassa* APP.  
 30 ——— *Tahitensis* p. 46  
 31 ——— *Bicarinata* p. 46  
 32 *Amphidesma Solidum* p. 43  
 33 *Corbula Rosea* APP.











- 34 ——— Pygmæa APP.  
 35 Amphidesma Roseum p. 44  
 36 Corbula Quadrata APP.  
 37 Cummingia Coarctata APP.  
 38 ——— Tellinoides APP.  
 39 Corbula Trigona APP.  
 40 Solen Niveus APP.  
 41 ——— Cylindraceus APP.  
 42 ——— Phillippinarum APP.  
 43 Corbula Mediterranea p. 47  
 44 Amphidesma Pallidum p. 44  
 45 ——— Purpurascens p. 44  
 46 ——— Punctatum p. 45  
 47 Corbula Porcina p. 46  
 48 Amphidesma Formosum  
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 49 ——— Lenticulare p. 44  
 50 ——— Rupium p. 44  
 51 ——— Rubrolineatum p. 44  
 52 ——— Decisum p. 44  
 53 Saxicava Carditoides p. 51  
 54 ——— Californica p. 51  
 55 Venerupis Lajonkairii p. 55  
 56 Sanguinolaria Nuttallii p. 56

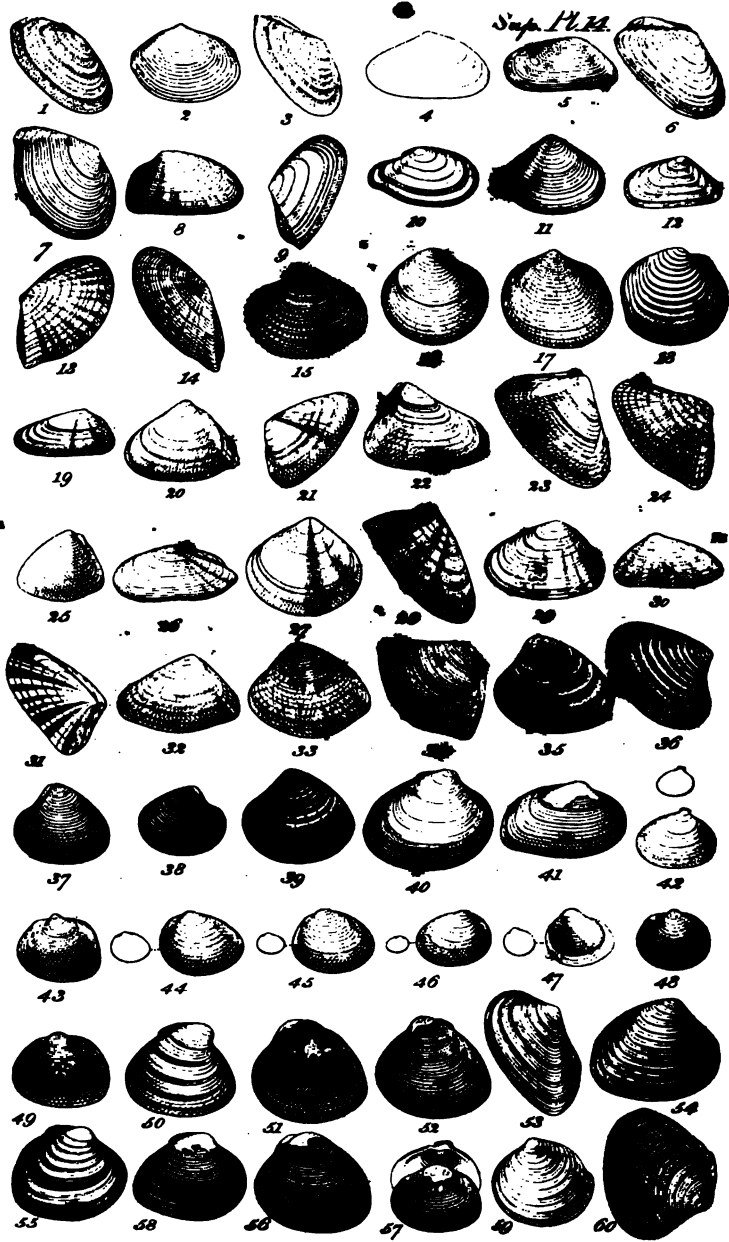
- 57 ——— Californica p. 56  
 58 Venerupis Crenata p. 55  
 59 Psammobia Pacifica p. 60  
 60 Psammotæa Violacea p. 60

# PLATE XIII.

- 1 Tellina Margaritina p. 63  
 2 ——— Exilis p. 64  
 3 ——— Deltoidalis p. 70  
 4 Lucina Pecten p. 77  
 5 ——— Lutea p. 77  
 6 ——— Digitalis p. 77  
 7 Donax Columbella p. 80  
 8 ——— Cayennensis p. 82  
 9 ——— Cardioides p. 82  
 10 ——— Martinicensis p. 84  
 11 Cyclas Similis p. 90  
 12 ——— Striatina p. 90  
 13 Cyrena Violacea p. 92  
 14 ——— Bengalensis p. 93  
 15 ——— Orientalis p. 92  
 16 Cyclas Sarratoga p. 90  
 17 Cytherea Mactroides p. 99  
 18 ——— Trigonella p. 99

- |                               |                              |
|-------------------------------|------------------------------|
| 19 Cytherea Nitidula p. 98    | 40 Cytherea Squalida p. 401. |
| 20 ——— Albina p. 99           | 41 Venus Præparca p. 117     |
| 21 ——— Hebræa p. 99           | 42 Solen Brevis p. 12        |
| 22 ——— Florida p. 98          | 43 Venus Gnidia p. 113       |
| 23 ——— Citrina p. 99          | 44 Psammotea Galatea p. 58   |
| 24 Mactra Saulii p. 34        | 45 Venus Rhombifera p. 120   |
| 25 Cytherea Planulata p. 105  | 46 ——— Japonica p. 127       |
| 26 Petricola Dactylus p. 53   | 47 Donax Elongata p. 82      |
| 27 Lyonsia Elongata. (Osteo-  | 48 Corbula Sulcata p. 45     |
| desma E. p. 25)               | 49 Petricola Pholadiformis   |
| 28 Solen Guinensis p. 12      | p. 52                        |
| 29 Cytherea Abbreviata p. 103 | 50 Periploma Obtusa. APP     |
| 30 Artemis Lucinalis (Cy-     | 51 Tellina Burneti p. 72     |
| therca L. p. 101)             | 52 Capsa Brasiliana p. 86    |
| 31 ——— Lunaris (Cytherea      | 53 Tellinides Accuminatus    |
| L. p. 101                     | p. 73                        |
| 32 Cytherea Plicatina p. 108  | 54 ——— Truncatulus p. 73     |
| 33 ——— Hepatica p. 101        | 55 ——— Emarginatus p. 74     |
| 34 ——— Venetiana p. 100       | 56 ——— Ovalis p. 73          |
| 35 Venus Gallinula p. 115     | 57 ——— Opalina. Var. Ro-     |
| 36 ——— Florida p. 125         | sea p. 73                    |
| 37 ——— Phaseolina p. 124      | 58 Corbula Nimbosa APP,      |
| 38 ——— Carneola p. 124        | 59 Fistulana Lagenula p. 3   |
| 39 ——— Pulchella p. 125       | 60 Mya Cancellata p. 20      |





## PLATE XIV.

- 1 Psammobia Lineolata p. 59
- 2 Tellina Linthea p. 72
- 3 ——— Albinella p. 63
- 4 ——— Nitida p. 64
- 5 ——— Llantivi p. 65
- 6 ——— Psammotella p. 65
- 7 ——— Nasuta p. 71
- 8 ——— Ondardi p. 65
- 9 ——— Alternata p. 66
- 10 ——— Tenta p. 65
- 11 ——— Ostracea p. 71
- 12 ——— Clathrata p. 65
- 13 ——— Lata p. 71
- 14 ——— Mastellum APP.
- 15 Corbia Sordabii p. 75
- 16 Lucina Globularis p. 77.
- 17 ——— Pecten p. 77.
- 18 ——— Phillippinarum APP
- 19 Donax Pulchellus p. 86
- 20 ——— Dentiferus p. 84
- 21 ——— Radiatus ? Var.

APP.

- 22 Donax Compressus p. 79
- 23 ——— Deltoides p. 80
- 24 ——— Punctato-striatus  
p. 84
- 25 ——— Semisulcatus p. 84
- 26 Psammotœa Pellucida  
p. 60  
(Tel. Lanceolata Var.)
- 27 Donax Veneriformis p. 80
- 28 ——— Carinatus p. 84
- 29 ——— Australis p. 80
- 30 ——— Californica p. 80
- 31 ——— Variabilis p. 85
- 32 ——— Striatus p. 82
- 33 ——— Equilatera p. 81
- 34 Capsa Altior p. 86
- 35 Crassina Latisulca p. 87
- 36 ——— Elliptica APP.
- 37 ——— Banksii APP.
- 38 ——— Striata APP.
- 39 ——— Incrassata p. 88
- 40 ——— Cyprinoides ?

(APP.) p. 88

41 *Glaucanome Curtus Nobis*

APP.

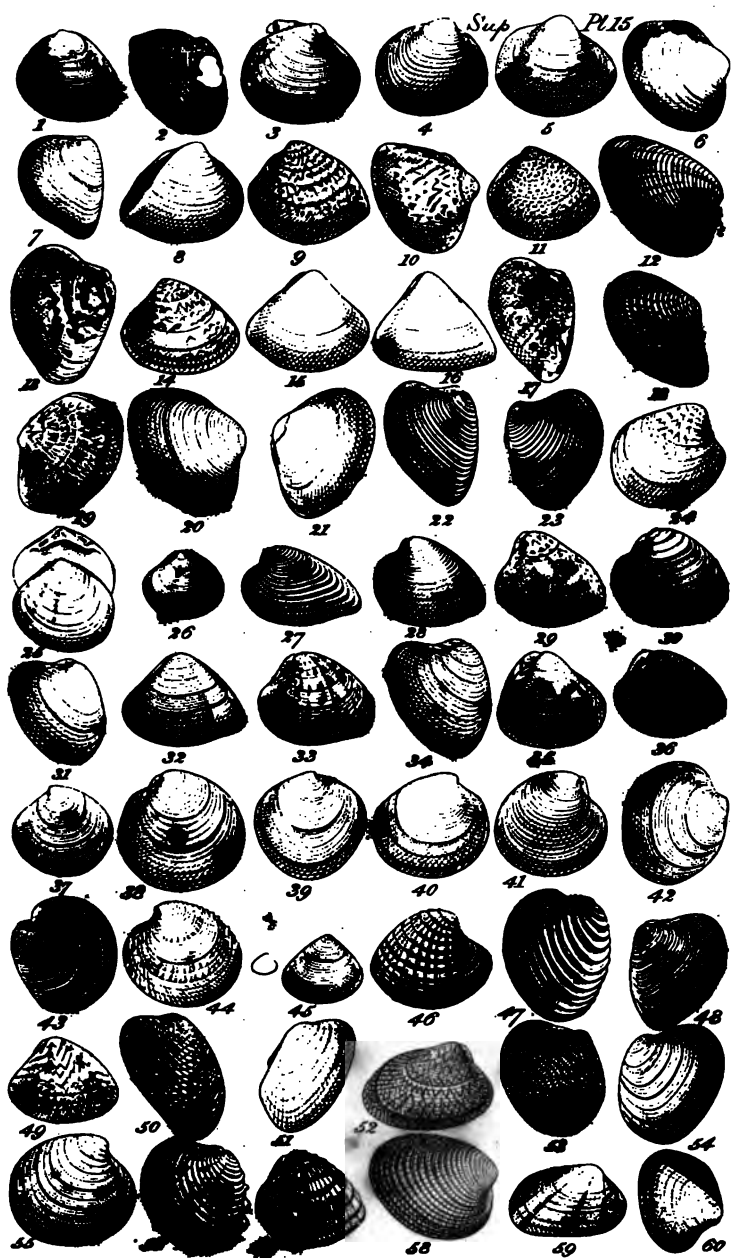
42 *Cyclas Appendiculata* p. 9143 — *Lacustris* p. 8944 — *Cinerea* p. 9145 — *Fontinalis* p. 9046 — *Nitida* p. 9047 — *Obtusalis* p. 9048 — *Partumeia* p. 9149 — *Elegans* p. 9150 *Cyrena Turgida* p. 9351 — *Sordida Nobis*, APP.52 — *Placens Nobis*, APP.53 — *Oblonga* p. 9454 — *Cyprinoides Quoy*

p. 93

55 — *Rotundata* p. 9356 — *Carolinensis* p. 9357 — *Australis* p. 9458 — *Woodiana* p. 9259 — *Vanikorensis* p. 9460 — *Philippinarum**Nobis*, APP.

## PLATE XV.

1 *Cyrena Sumatrensis* p. 942 — *Tenebrosa* APP.3 — *Obesa* APP.4 *Cyrenoidea Dupontia* APP.5 — *Canningii* APP.6 — *Oblonga* APP.7 *Cytherea Cor* APP.8 — *Meretrix* p. 969 — *Petechialis* p. 9610 — *Zonaria* p. 9611 — *Graphica* p. 9812 — *Lilacina* p. 9813 — *Tigrida* p. 10014 — *Pannosa* p. 10515 — *Argentina* p. 10516 — *Bicolor* p. 10417 — *Floridella* p. 10518 — *Effossa* p. 10619 — *Excavata* p. 10920 — *Aurantia* APP.







- 21 *Cytherea Ovum Nobis* APP.  
 22 ——— *Tortuosa* p. 104  
 23 ——— *Guineensis* Var.  
           p. 100  
 24 ——— *Obliquata* APP.  
 25 ——— *Scripta* Var. ! \*  
 26 ——— *Cyrilli* APP.  
 27 ——— *Affinis* APP.

---

\* Although certain that this shell (usually termed the *Scripta* of Australia,) is completely distinct from the true *Scripta* of Linnaeus, I dare not, from the long interval to elapse between the penning and publication of these sheets, venture to assign it a new specific appellation. Should it however, by any possibility have escaped the attention of other Conchologists, I would suggest the name of *Quoyi*, in honor of the naturalist who has so successfully investigated the Invertebrata of that portion of the globe.

- 28 *Cytherea Unicolor* p. 105  
 29 ——— *Hieroglyphica*  
           p. 104  
 30 ——— *Purpurata* p. 97  
 31 ——— *Albida* APP.  
 32 ——— *Crassatelloides*  
           p. 106.  
 33 ——— *Varians* APP.  
 34 ——— *Convexa* p. 105  
 35 ——— *Hindsii* APP.  
 36 ——— *Philippinarum* APP.  
 37 ——— *Plebeia* APP.  
 38 *Artemis Ponderosa* p. 106  
 39 ——— *Subquadrata* APP.  
 40 ——— *Africana* p. 106  
 41 ——— *Simplex* APP.  
 42 ——— *Sculpta* APP.  
 43 ——— *Scalaria* APP.  
 44 ——— *Bilunulata* p. 106  
 45 *Venus Gemma* p. 126  
 46 ——— *Leucodon* p. 118  
 47 ——— *Peruviana* p. 128  
 48 ——— *Australis* p. 118

*Venus Variabilis* Sow.

= ? *V. Undulosa* Lam.

p. 126

- 50 ——— *Sulcaria* p. 121
- 51 ——— *Galactites* p. 123
- 52 ——— *Texturata* p. 124
- 43 ——— *Fusco-lineata* 118
- 54 ——— *Opaca* p. 128
- 55 ——— *Lenticularis* p. 128
- 56 ——— *Rosalina* APP.
- 57 ——— *Subimbricata* APP.
- 58 ——— *Costellata* p. 118\*
- 59 ——— *Brugieri Nobis* APP
- 60 ——— *Discors* p. 118

---

\* This is the *V. Antiqua* of *Cappon King* (*Zool. Journ.* 5) but is inadequately described as not possibly to be recognized without an examination of the original specimens. For this reason I have preferred the subsequent name given to the species by Mr. Sowerby.

PLATE XVI.

- 1 *Venus oblonga* (Dosina O. Gray) APP.
- 2 ——— *Columbiensis* p. 119
- 3 ——— *Cypria* p. 128
- 4 ——— *Scalarina* p. 123
- 5 ——— *Californiensis* p. 114
- 6 ——— *Turgida* p. 121
- 7 ——— *Flammiculata* p. 125
- 8 ——— Var. p. 125
- 9 ——— *Reticulata* p. 110
- 10 ——— *Reflexa* p. 110.
- 11 ——— *Laminosa* APP.
- 12 ——— *Neglecta* p. 113
- 13 ——— *Pygmea* p. 110
- 14 ——— *Florida* p. 124
- 15 ——— Var. *Bicolor* p. 124
- 16 ——— *Nuttalii* (*Saxidomus*) APP.
- 17 ——— *Dombei* p. 115
- 18 ——— *Compta* APP.
- 19 ——— *Subnodulosa* APP.






20 Venus Chemnitzii APP.	34 Venus Aspersa*
21 ——— Lyra APP.	35 ——— Deshayesii APP.†
22 ——— Decipiens APP.	36 ——— Marmorata p. 123
23 ——— Lacerata APP.	37 ——— Tristis Variety
24 ——— Scabra APP.	Elegantina p. 125
25 ——— Roborata APP.	38 ——— Hiantina p. 120
26 ——— Calophylla APP.	39 ——— Crassicosta p. 118
27 ——— Impressa APP.	40 ——— Intermedia p. 127
28 ——— Kochii [note p 127]	41 ——— Zelandica p. 127
29 ——— Multicostata p. 128	42 ——— Gallina p. 115†
30 ——— Crenifera Var. p.	43 ——— Peronii p. 126
118	44 ——— Spissa p. 117
31 ——— Histrionica p. 119	45 ——— Crassicosta young
32 ——— Tricolor p. 119	p. 118
33 ——— Aphrodina Var. p.	46 ——— Nuttallii p. 113
126	47 ——— Kelletii APP.

\* By an error, the description of V Sulcaria (which is a good and distinct species) has been appended to V Aspersa. This will be rectified in the APPENDIX in which it is intended to give descriptions of those shells which have been figured but not noticed in the text, many having only appeared since its publication.

† This is the V Litterata which (previously confused with Aspersa, (the Reticulata of Ch. f. 439,) was first noticed as distinct by M. Deshayes. If the genus PULLASTRA be admitted, it must resume the name of P. Radiata, by which the figure is quoted in Anton's Verzeichniss.

‡ This is the Mediterranean species so designated by Linnæus

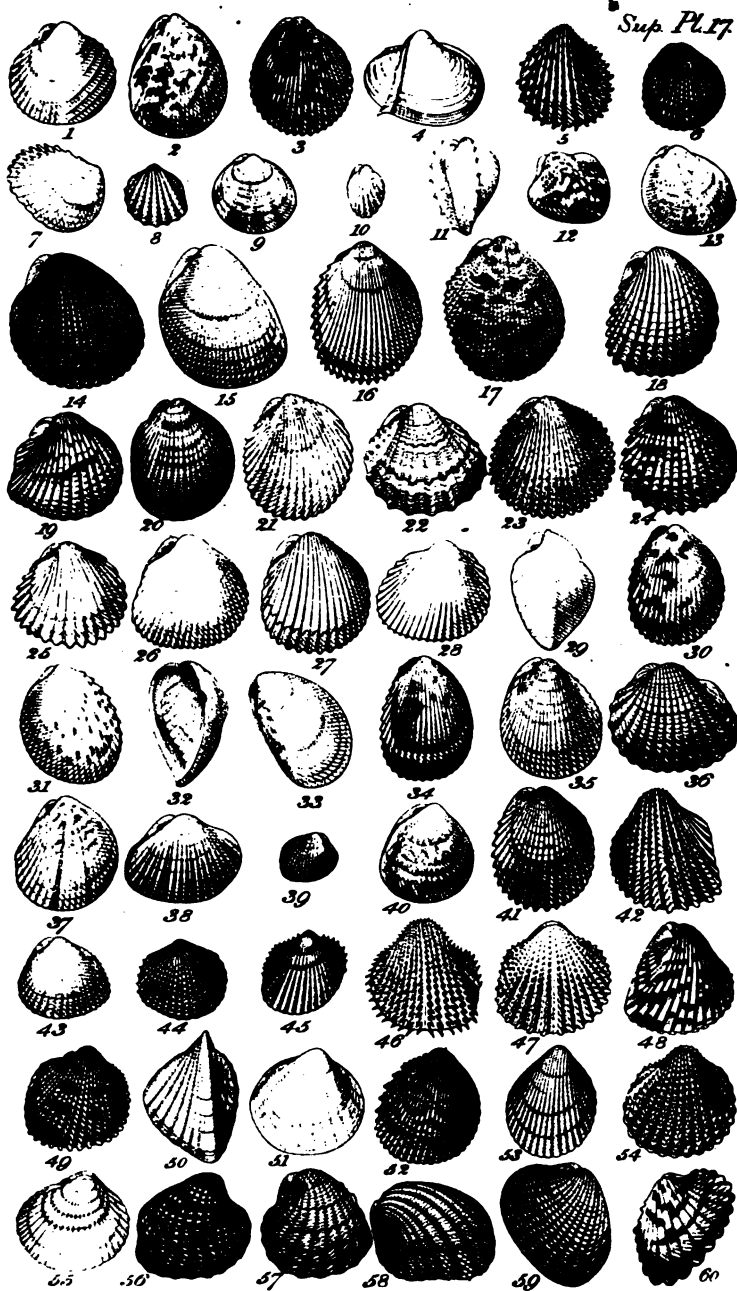
- 48  — *Crassisulca*? p. 120  
 49 ——— *Decorata* p. 117  
 50 *Cardium Mortoni* p. 141  
 51 —————  
 52 ——— *Lacunosum* APP.  
 53 ——— *Lineatum* p. 143  
 54 ——— *Rubicundum* APP.  
 55 ——— *Indicum* p. 129  
 56 ——— *Multipunctatum* p.  
           140  
 57 ——— *Pseudolima* p. 131  
 58 ——— *Multispinosum* p.  
           137  
 59 ——— *Erinaceum* p. 131  
 60 ——— *Panamense* young  
           p. 140

## PLATE XVII.

- 1 *Cardium Lyratum* p. 141  
 2 ——— *Biradiatum* p. 133  
 3 ——— *Oxygonum* p. 138  
 4 ——— *Cumingii* p. 135  
 5 ——— *Belcheri* p. 137  
 6 ——— *Papillosum* p. 137

- 7 *Cardium Ringiculum* p. 136  
 8 ——— *Graniferum* p. 137  
 9 ——— *Striatulum* p. 135  
 10 ——— *Obovale* APP.  
 11 ——— *Dionæum* APP.  
 12 ——— *Siculum* p. 136  
 13 ——— *Brasilianum* p. 130  
 14 ——— *Nuttalii* p. 139  
 15 ——— *Elatum* p. 140  
 16 ——— *Elongatum* p. 132  
 17 ——— *Orbita* APP.  
 18 ——— *Procerum* p. 140  
 19 ——— *Biangulatum* p. 143  
 20 ——— *Subrugosum* p. 140  
 21 ——— *Alternatum* p. 140  
 22 ——— *Paucicostatum* p.  
           137  
 23 ——— *Senticosum* p. 137  
 24 ——— *Laticostatum* p.  
           135. *Procerum* young.  
 25 ——— *Sinense* p. 135  
 26 ——— *Tenuicostatum* p.  
           130  
 27 ——— *Incarnatum* APP.

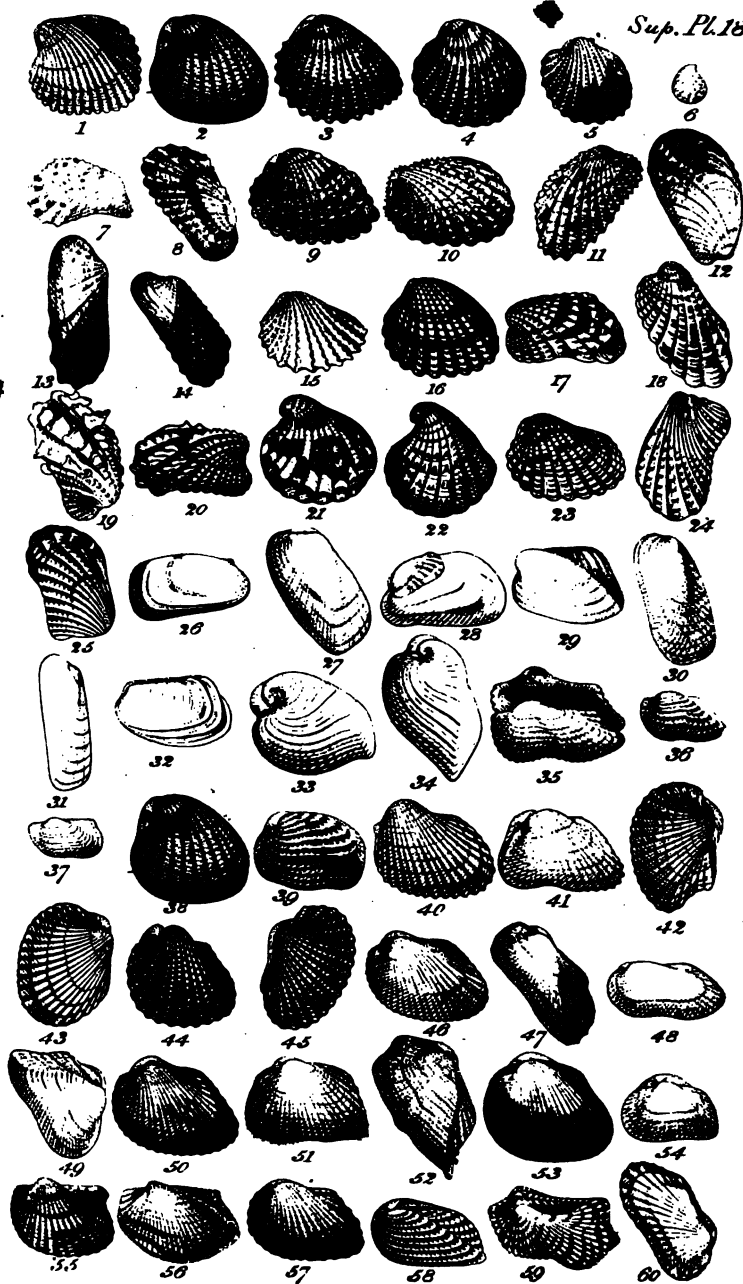
as I have ascertained from an examination of his own specimens. The British *V. Gallina* must (for those who consider it specifically distinct) resume the name of *Striatula* assigned to it by Da Costa and Montagu.







XXXIII



- |  |   |
|--|---|
| 28 <i>Cardium Punctulatum</i> p.<br>136            | 50 ——— <i>Tumori ferum</i> p.<br>142                                    |
| 29 ——— <i>Subretusum</i> p. 144                    | 51 ——— <i>Fragile</i> p. 141  |
| 30 ——— <i>Subelongatum</i> p.<br>138               | 52 ——— <i>Variegatum</i> p. 138   |
| 31 ——— <i>Foveolatum</i> p. 138                    | 53 ——— <i>Impolitum</i> p. 138  |
| 32 ——— <i>Monstrosum</i> p. 143                    | 54 ——— <i>Deshayesii</i> APP.   |
| 33 ——— <i>Attenuatum</i> p. 140                    | 55 ——— <i>Muticum</i> APP.  |
| 34 ——— <i>Maculatum</i> p. 139                     | 56* <i>Cardita Cuvierii</i> p. 146                                      |
| 35 ——— <i>Unicolor</i> p. 138                      | 57 ——— <i>Tumida</i> p. 146   |
| 36 ——— <i>Glaucum</i> of Bru-<br>guiere APP.       | 58 ——— <i>Crassa</i> p. 145   |
| 37 ——— <i>Australe</i> p. 135                      | 59 ——— <i>Australis</i> ( <i>Veneri-</i><br><i>cardia</i> A) of Quoy;=? |
| 38 ——— <i>Caspium</i> APP.                         | Tridentata of Say APP.  |
| 39 ——— <i>Punctatum</i> of Re-<br>nier <i>APP.</i> | 60 ——— <i>Laticostata</i> var. p.<br>146                                |
| 40 ——— <i>Elenense</i> p. 141                      |   |
| 41 ——— <i>Enode</i> p. 139                         |   |
| 42 ——— <i>Imbricatum</i> p. 143                    |   |
| 43 ——— <i>Scabrum</i> APP                          |   |
| 44 ——— <i>Nodosum</i> p. 136                       |   |
| 45 ——— <i>Ovale</i> p. 136                         |   |
| 46 ——— <i>Hystrix</i> APP.                         |   |
| 47 ——— <i>Exasperatum</i> p.<br>137                |   |
| 48 ——— <i>Planicostatum</i> p.<br>144              |   |
| 49 ——— <i>Fornicatum</i> p. 143                    |   |

## PLATE XVIII.

- |  |
|--|
| 1 <i>Cardita Abyssicola</i> APP.                                 |
| 2 ——— <i>Antiquata</i> of Lin-<br>næus. ( <i>Sulcata</i> p. 144) |
| 3 ——— <i>Ajar</i> p. 144   |
| 4 ——— <i>Borealis</i> p. 145                                     |
| 5 ——— <i>Canaliculata</i> APP.                                   |
| 6 ——— <i>Corbis</i> APP.   |
| 7 ——— <i>Calyculata</i> p. 147                                   |
| 8 ——— <i>Radiata</i> p. 148                                      |

\* The *Venericardia Crassicostata* of the Tankerville Catalogue, appears from the original specimen, (now in the National Museum) to be a variety of this species; nor do I perceive much difference in the *C. Michelini* of Valenciennes in the *Voyage de la Venus*.





- |  |  |
|--|--|
| <p>9 <i>Cardita Laticostata</i> p. 146<br/> 10 ——— <i>Aculeata</i> of Poli<br/> (= ? <i>Squamosa</i> of Lam.)<br/> APP.<br/> 11* ——— <i>Pica</i> APP.<br/> 12 ——— <i>Gubernaculum</i> APP.<br/> 13 ——— <i>Pectunculus</i> p. 149<br/> 14 ——— <i>Lacunosa</i> APP.<br/> 15 ——— <i>Affinis</i> p. 149<br/> 16 ——— <i>Spurca</i> p. 146<br/> 17 ——— <i>Muricata</i> p. 146<br/> 18 ——— <i>Marmorea</i> APP.<br/> 19 ——— <i>Crassicosta</i> p. 146<br/> variety <i>tridacnoides</i>.<br/> 20 ——— <i>Rufescens</i> p. 147<br/> 21 ——— <i>Varia</i> p. 146<br/> 22 ——— <i>Megastropha</i> (<i>Venericardia</i> M. p. 129);<br/> the <i>C. Flammea</i> of Michelin.<br/> 23 ——— <i>Nitida</i> APP.<br/> 24 ——— <i>Aviculina</i> p. 148<br/> 25 ——— <i>Nodulosa</i> p. 147<br/> 26 ——— <i>Lithophagella</i> p.<br/> 148<br/> 27 <i>Cypricardia Angulata</i> p. 149<br/> 28 ——— <i>Sublævigata</i> (<i>Cardita</i> S. p. 148); <i>Cy. Vellicata</i> of Reeve.</p> | <p>29 <i>Cypricardia Obesa</i> APP.<br/> 30 ——— <i>Decussata</i> APP.<br/> 31 ——— <i>Solenoides</i> APP.<br/> 32 ——— <i>Laminata</i> APP.<br/> 33 <i>Isocardia Vulgaris</i> (as var. ?<br/> of <i>Moltkiana</i> p. 151)<br/> 34 ——— <i>Lamarckii</i> APP.<br/> 35 <i>Arca Imbricata</i> of Bruguiere p. 152<br/> 36 ——— <i>Imbricata</i> of Poli<br/> (not of Brug.) APP.<br/> 37 ——— <i>Scabra</i> APP.<br/> 38 ——— <i>Diluvii</i> APP.<br/> 39 ——— <i>Gradata</i> p. 155<br/> 40 ——— <i>Trapezia</i> APP.<br/> 41 ——— <i>Illota</i> APP.<br/> 42 ——— <i>Deshayesii</i> of Hanley<br/> p. 157<br/> 43 ——— <i>Pexata</i> p. 159<br/> 44 ——— <i>Incongrua</i> p. 159<br/> 45 ——— <i>Radiata</i> APP.<br/> 46 ——— <i>Obliqua</i> APP.<br/> 47 ——— <i>Virescens</i> APP.<br/> 48 ——— <i>Tenella</i> APP.<br/> 49 ——— <i>Maculata</i> APP.<br/> 50 ——— <i>Antiquata</i> p. 157<br/> 51 ——— <i>Squamosa</i> var. APP.<br/> 52 ——— <i>Mutabilis</i> p. 156<br/> 53 ——— <i>Tuberculosa</i> p. 161</p> |
|--|--|

\* Closely allied to, if indeed distinct from, *C. Aviculina* of Lamarck.







- 54 Arca Solida p. 155  
 55 — Auriculata\*  
 56 — Trapezina p. 153  
 57 — Transversa p. 161  
 58 — Divaricata p. 155  
 59 — Pacifica p. 155  
 60 — Emarginata (very old)  
 p. 161

## PLATE XIX.

- 1 Arca Alternata p. 156  
 2 — Lithodomus p. 156  
 3 — Labiosa p. 153  
 4 — Concinna p. 160  
 5 — Obesa p. 160  
 6 — Nux p. 160  
 7 — Labiata p. 160  
 8 — Glacialis p. 156.

- 9 — Formosa p. 160  
 10 — Grandis p. 160  
 11 — Cardiiiformis p. 161  
 12 — Multicostata p. 161  
 13 — Tetragona p. 152  
 14 — Truncata p. 156  
 15 — Chalcanthum APP.  
 16 — Decussata APP. (Sul-  
 cata? p. 153)  
 17 — Velata p. 156  
 18 Pectunculus Spadiceus APP.  
 19 — Siculo p. 162  
 20 — Violascens p. 163  
 21 — Intermedius p.  
 164  
 22 — Ovatus p. 164  
 23 — Tessellatus p.  
 166  
 24 — Tenuicostatus  
 APP.

\* This figure is copied from that given in Delessert's delineations of the unfigured specimens described by Lamarck. The original diagnosis is as follows:—

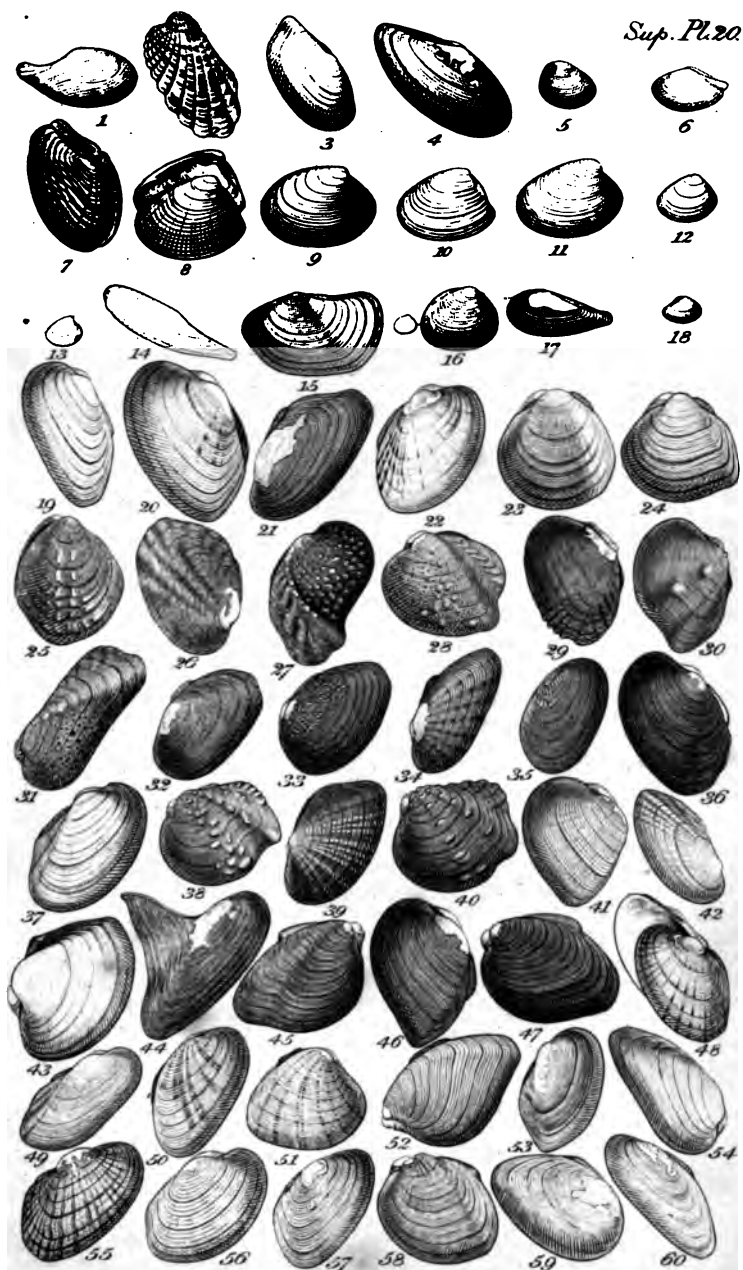
"Cordate, ventricose, with many crenulated ribs; umbones oblique; emarginated anteriorly. 1  $\frac{2}{3}$ . *Indian Ocean. Allied to Rhombea, but smaller, with the beaks more approximated.*" The figure in Delessert's magnificent folio, exhibits about thirty very closely arranged ribs, and the posterior end of the ligamental area destitute of any ligament. I have never met with any specimen which I could satisfactorily identify with this engraving; the shell which I have described at page 157, (which is a variety of my *A. Deshayesii*, the *Antiquata* of Lamarck's description, but not that of Linnæus,) although sufficiently in accordance with the too brief characters, evidently not being identical with the delineated specimen.

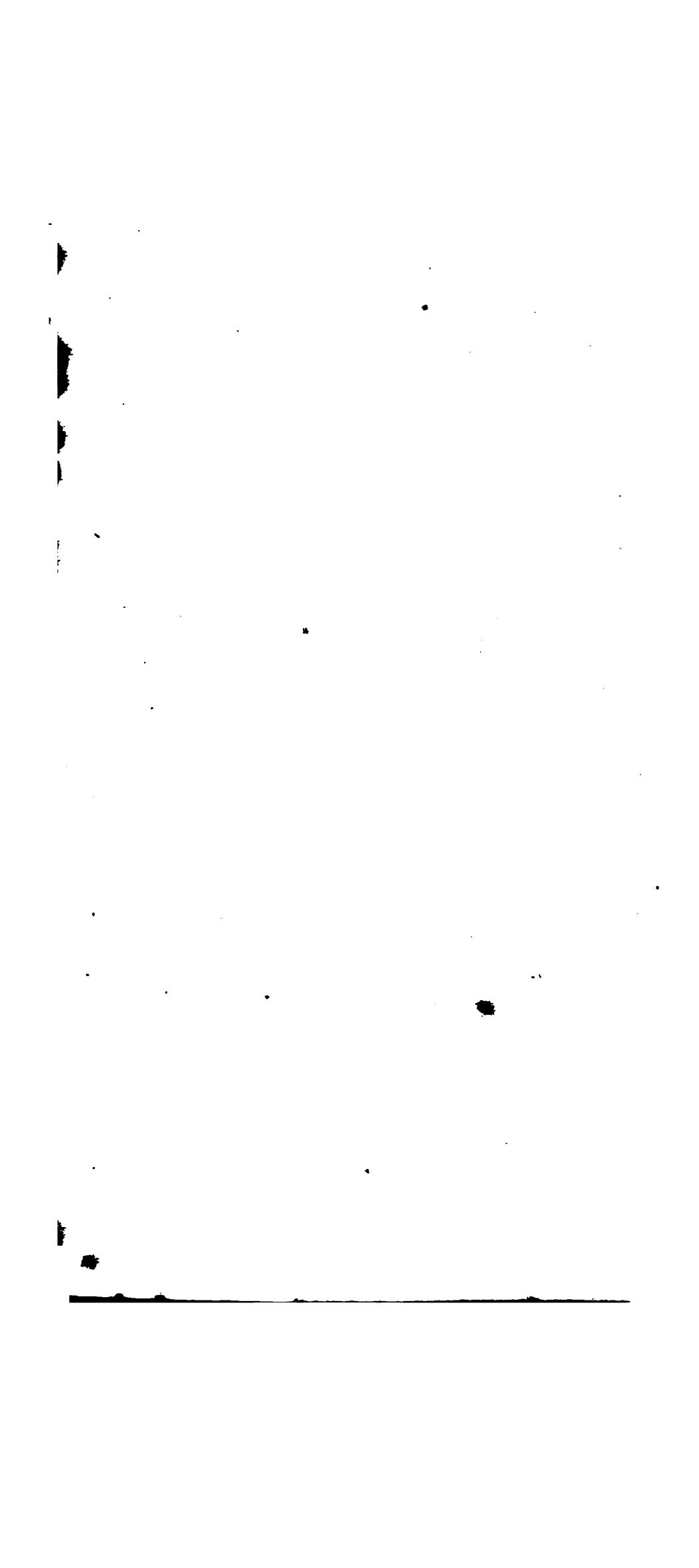
- |                           |                          |
|---------------------------|--------------------------|
| 25 ——— Radians p. 165     | 49 ——— Lanceolata p. 167 |
| 26 ——— Undulatus p. 162   | 50 ——— Elongata p. 167   |
| 27 ——— Pectinoides APP.   | 51 ——— Crenifera p. 167  |
| 28 ——— Vitreus p. 165     | 52 ——— Parva p. 169      |
| 29 ——— Roseus APP         | 53 ——— Polita p. 169     |
| 30 ——— Laticostatus APP.  | 54 ——— Costellata p. 169 |
| 31 ——— Stellatus p. 163   | 55 ——— Gibbosa p. 169    |
| 32 ——— Lineatus p. 164    | 56 ——— Elenensis p. 169  |
| 33 ——— Giganteus p. 164   | 57 ——— Eburnea p. 169    |
| 34 ——— Maculatus p. 164   | 58 ——— Cuneata p. 169    |
| 35 ——— Parcipictus p. 165 | 59 ——— Nasuta p. 170     |
| 36 ——— Multicostatus p.   | 60 ——— Striata p. 170    |
| 165                       |                          |
| 37 ——— Aurifluus p. 165   |                          |
| 38 ——— Tessellatus p.     |                          |
| 166                       |                          |
| 39 ——— Oculatus p. 166    |                          |
| 40 ——— Nodosus p. 166     |                          |
| 41 ——— Pallium p. 166     |                          |
| 42 ——— Bicolor p. 166     |                          |
| 43 ——— Morum p. 166       |                          |
| 44 Nucula Nitida p. 171   |                          |
| 45 ——— Myalis p. 170      |                          |
| 46 ——— Mauritiana p. 170  |                          |
| 47 ——— Tenella APP        |                          |
| 48 ——— Reticulata APP.    |                          |

## PLATE XX.

- |                          |
|--------------------------|
| 1 Nucula Rostrata p. 168 |
| (= Recurva p. 170        |
| 2 ——— Eightsii p. 169    |
| 3 ——— Sapotilla p. 170   |
| 4 ——— Limatula p. 170    |
| 5 ——— Proxima p. 172     |
| 6 ——— Fabula p. 170      |
| (Emarginata of Philippi) |
| 7 ——— Arctica p. 168     |
| 8* ——— Decussata p. 171  |
| 9 ——— Obliqua p. 171     |

\* From an examination of the type of Decussata, I regard it as identical with the *N. Polii* of Philippi's *Enumeratio Molluscorum Siciliae*, vol. i. p. 63, t. 5 f. 10. This Mediterranean shell, which has recently been discovered to be a native of our coast, also varies much in contour and in the intensity of its concentric wrinkles, which rarely equal those of the specimen figured in the Conchological Illustrations.





xl<sup>iii</sup>



- 10 *Nucula Rugulosa*, p. 171
- 11 ——— *Convexa*, p. 172
- 12 ——— *Pisum*, p. 172
- 13 ——— *Exigua*, p. 172
- 14 ——— *Patagonica*, p. 167
- 15 ——— *Thracæformis*, p.  
169
- 16 ——— *Delphinodonta*, APP.
- 17 ——— *Tenuisulcata*, APP.
- 18 ——— *Pygmæa*, APP.
- 19 *Unio Siculus*, APP.
- 20 ——— *Perdix*, p. 188
- 21 ——— *Hopetonensis*, p. 198
- 22 ——— *Cariosus*, p. 190
- 23 ——— *Circulus*, p. 201
- 24 ——— *Obliquus*, p. 186
- 25 ——— *Irroratus*, p. 181
- 26 ——— *Undulatus*, p. 175
- 27 ——— *Tuberculatus*, p. 182
- 28 ——— *Intermedius*, APP.
- 29 ——— *Cœlatus*, p. 175
- 30 ——— *Cornutus*, p. 179
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- 32 ——— *Pliciferus*, p. 176
- 33 ——— *Semigranosus*, APP.
- 34 ——— *Subtentus*, p. 176
- 35 ——— *Multistriatus*, p. 176
- 36 ——— *Tampicoensis*, p. 188
- 37 ——— *Gracilis*, p. 174
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- 40 *Unio Fragosus*, p. 178
- 41 ——— *Brevidens*, p. 198
- 42 ——— *Tenuissimus*, p. 206
- 43 ——— *Ovatus*, p. 184
- 44 ——— *Delphinus*, APP.
- 45 ——— *Pyramidatus*, p. 186
- 46 ——— *Crassidens*, p. 184
- 47 ——— *Ebenus*, p. 202
- 48 ——— *Ochraceus*, p. 190
- 49 ——— *Cæruleus*, p. 194
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- 52 ——— *Clavus*, p. 187
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- 59 ——— *Ravenelianus*, p. 187
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- 3 ——— *Paranensis*, p. 202
- 4 ——— *Lens*, p. 201
- 5 ——— *Capsæformis*, p. 191
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- |    |  |    |   |
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| 10 | — <i>Multiradiatus</i> , p. 190  | 36 | — <i>Dehiscens</i> , p. 204   |
| 11 | — <i>Retusus</i> , p. 202  | 37 | — <i>Iris</i> , p. 206  |
| 12 | — <i>Asperrimus</i> , p. 178   | 38 | — <i>Tappanianus</i> , p. 209,<br>= <i>viridis</i> , Conrad, teste<br>Lea |
| 13 | — <i>Littoralis</i> , p. 201   | 39 | — <i>Niloticus</i> , p. 197   |
| 14 | — <i>Varicosus</i> , p. 181  | 40 | — <i>Caffer</i> , APP.  |
| 15 | — <i>Fabalis</i> , p. 196  | 41 | — <i>Lævissimus</i> , p. 174  |
| 16 | — <i>Subplanus</i> , APP.  | 42 | — <i>Heterodon</i> , p. 183   |
| 17 | — <i>Camptodon</i> , p. 198  | 43 | — <i>Rubiginosus</i> , p. 185   |
| 18 | — <i>Atratus</i> , APP.  | 44 | — <i>Pileus</i> , p. 185  |
| 19 | — <i>Medellinus</i> , p. 193   | 45 | — <i>Inflatus</i> , p. 174  |
| 20 | — <i>Complanatus</i> , p. 199  | 46 | — <i>Gibber</i> , p. 185  |
| 21 | — <i>Plicatus</i> , p. 175   | 47 | — <i>Dolabræformis</i> , p. 189   |
| 22 | — <i>Pectorosus</i> , p. 189   | 48 | — <i>Rangianus</i> , p. 187   |
| 23 | — ( <i>Alasmodonta</i> ) <i>Margi-</i><br><i>natus</i> , p. 211              | 49 | — <i>Lamellatus</i> , p. 194  |
| 24 | — <i>Verrucosus</i> , p. 180   | 50 | — <i>Bengalensis</i> , p. 194   |
| 25 | — <i>Australis</i> , p. 192  | 51 | — <i>Turgidus</i> , p. 180  |
| 26 | — <i>Clairbornensis</i> , p. 192   | 52 | — <i>Nicklinianus</i> , p. 175  |
| 27 | — <i>Fontainianus</i> , D'Orb.<br>= <i>rotundus</i> , var. Wag-<br>ner, APP. | 53 | — <i>Murchisonianus</i> , p. 177  |
| 28 | — <i>Interruptus</i> , p. 191  | 54 | — <i>Camelus</i> , p. 184   |
| 29 | — <i>Auratus</i> , p. 199  | 55 | — <i>Sowerbyanus</i> , p. 185   |
| 30 | — <i>Bilineatus</i> , p. 207   | 56 | — <i>Delodontus</i> , p. 194  |
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| 32 | — <i>Lienosus</i> , p. 194   | 58 | — <i>Emarginatus</i> , p. 210   |
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|    |  | 60 | — <i>Corrianus</i> , p. 207   |





## PLATE XXII.

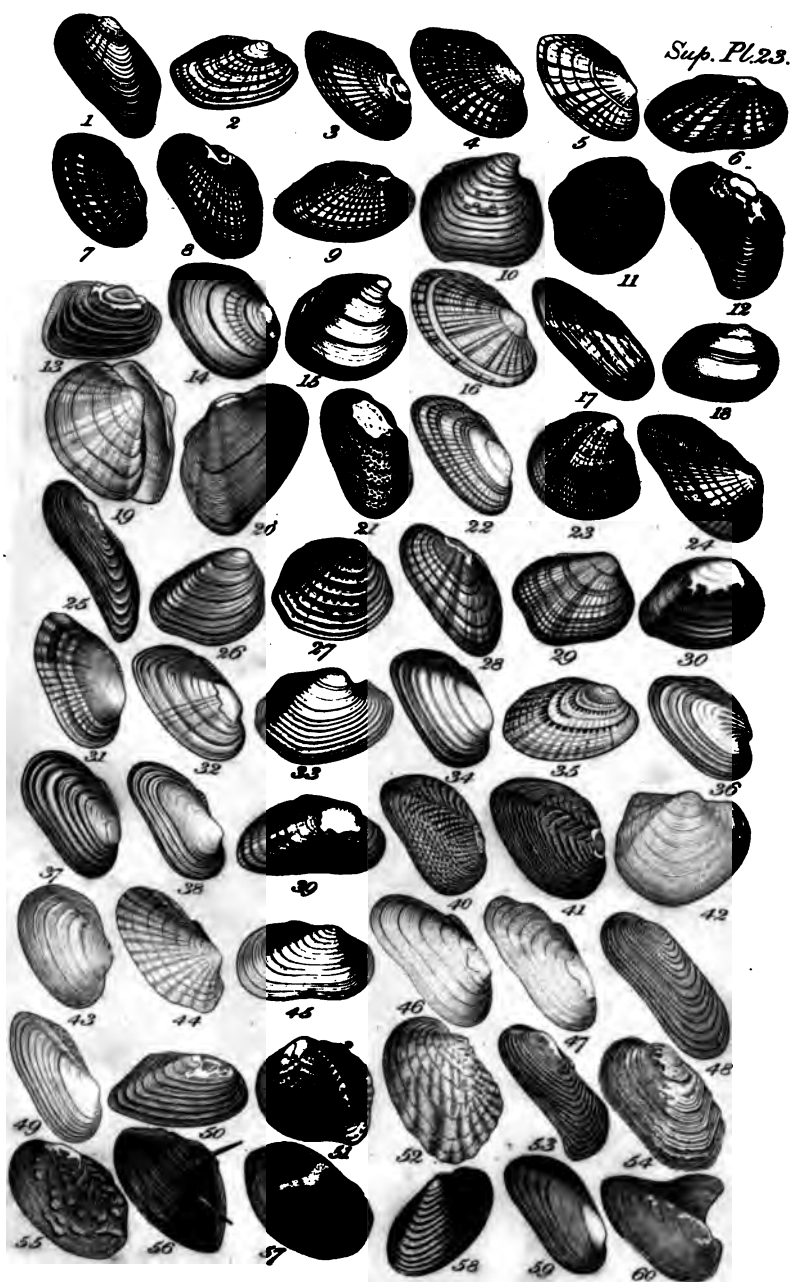
- |    |                            |    |  |
|----|----------------------------|----|--|
| 1  | Unio Blandingianus, p. 200 | 28 | Unio Heros, p. 175                     |
| 2  | — Burroughianus, p. 197    | 29 | — Trapezoides, p. 176                  |
| 3  | — Parvus, p. 196           | 30 | — Castaneus, p. 188                    |
| 4  | — Bialatus, p. 214         | 31 | — Congareus, p. 200                    |
| 5  | — Purpuratus, p. 208       | 32 | — Olivarius, p. 195                    |
| 6  | — Membranaceus, p. 202     | 33 | — Glans, p. 196                        |
| 7  | — Cuprinus, p. 208         | 34 | — Obesus, p. 198                       |
| 8  | — Contradens, p. 209       | 35 | — Acutissimus, p. 177                  |
| 9  | — Lugubris, p. 206         | 36 | — Pustulatus, p. 178                   |
| 10 | — Carbonarius, p. 184      | 37 | — Asper, p. 179                        |
| 11 | — Leontianus, p. 188       | 38 | — Stapes, p. 179                       |
| 12 | — Discus, p. 197           | 39 | — Perplexus, p. 181                    |
| 13 | — Parchappi, p. 212        | 40 | — Arcæformis, p. 182                   |
| 14 | — Guayaranus, p. 213       | 41 | — Donaciformis, p. 183                 |
| 15 | — Corrientensis, p. 212    | 42 | — Ziczac, p. 183                       |
| 16 | — Patagonicus, p. 208      | 43 | — Subovatus, p. 184                    |
| 17 | — Paraguayanus, p. 212     | 44 | — Holstonianus, p. 213                 |
| 18 | — Minuanus, p. 213         | 45 | — Fabula, p. 213                       |
| 19 | — Fossiculiferus, p. 213   | 46 | — Arctior, p. 208                      |
| 20 | — Rhombeus, p. 208         | 47 | — Jejunos, p. 199                      |
| 21 | — Decisus, p. 187          | 48 | — Vaughanianus, p. 208                 |
| 22 | — Sulcatus, p. 188         | 49 | — Arcula, p. 210                       |
| 23 | — Calceola, p. 212         | 50 | — Deltoidens, p. 211                   |
| 24 | — Occidens, p. 189         | 51 | — Leontianus (copied from Lea), p. 188 |
| 25 | — Angustatus, p. 204       | 52 | — Fisherianus, p. 206                  |
| 26 | — Lanceolatus, p. 204      | 53 | — Jayensis, p. 206                     |
| 27 | — Patulus, p. 187          | 54 | — Coccineus, p. 203                    |
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|    |                            | 57 | — Zieglerianus, p. 193                 |

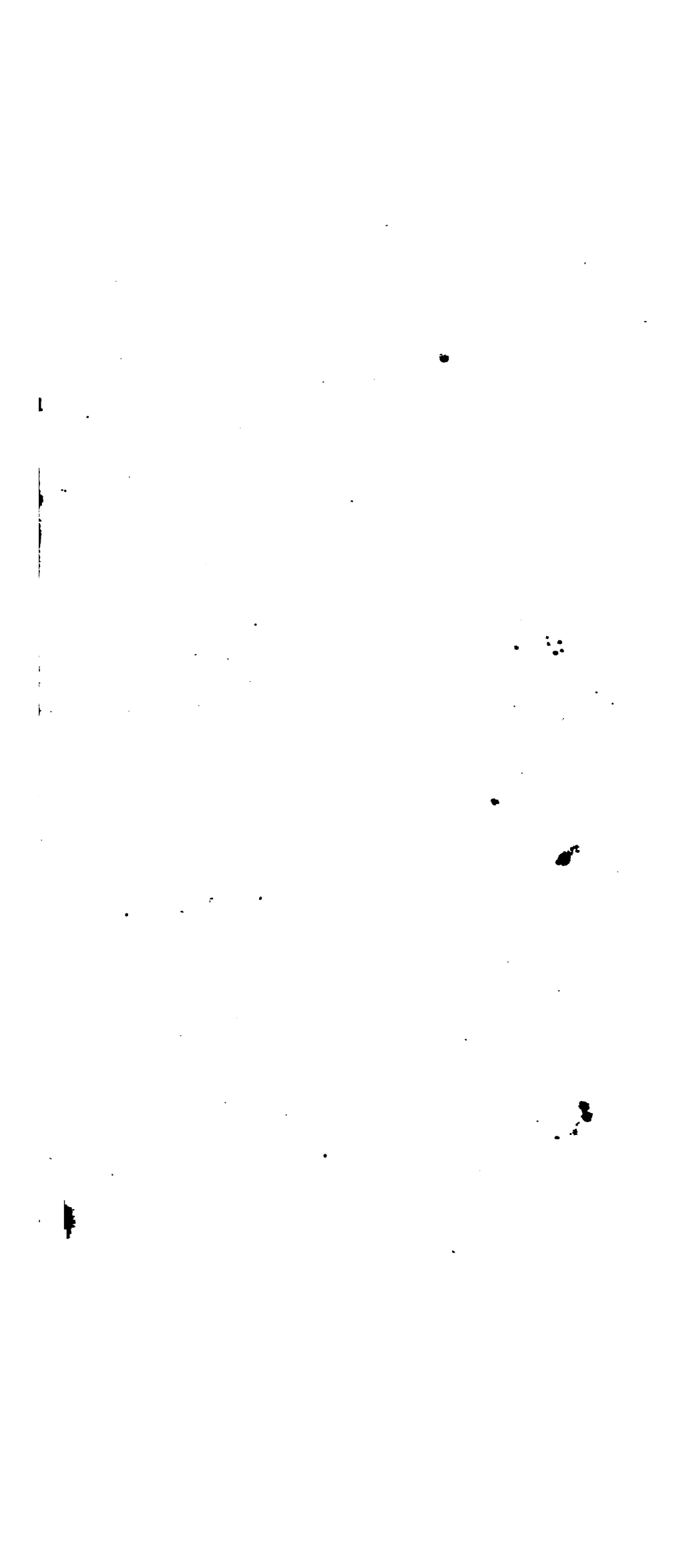
- 58 *Unio Obscurus*, p. 194  
 59 — *Cumberlandianus*, p.  
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 60 — *Mühlfeldianus*, p. 196

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- |                                     |  |
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| 2 — <i>Glaber</i> , p. 196          | 22 — <i>Conradicus</i> , p. 176                                  |
| 3 — <i>Simus</i> , p. 197           | 23 — <i>Dromas</i> , p. 181                                      |
| 4 — <i>Menkianus</i> , p. 191       | 24 — <i>Troostensis</i> , p. 186                                 |
| 5 — <i>Venustus</i> , p. 192        | 25 — <i>Shepardianus</i> , p. 203                                |
| 6 — <i>Hydianus</i> , p. 192        | 26 — <i>Taitianus</i> , p. 186                                   |
| 7 — <i>Pulcher</i> , p. 193         | 27 — <i>Kirklandianus</i> , p. 203                               |
| 8 — <i>Medellinus</i> , p. 193      | 28 — <i>Griffithianus</i> , p. 199                               |
| 9 — <i>Notatus</i> , p. 193         | 29 — <i>Pegonatus</i> , p. 202                                   |
| 10 — <i>Dorfeuillianus</i> , p. 179 | 30 — <i>Rotundatus</i> , p. 201                                  |
| 11 — <i>Graniferus</i> , p. 180     | 31 — <i>Nashvillianus</i> , p. 193                               |
| 12 — <i>Carbonarius</i> ,* p. 184   | 32 — <i>Fulvus</i> , p. 200                                      |
| 13 — <i>Pumilis</i> , p. 185        | 33 — <i>Globosus</i> , p. 189                                    |
| 14 — <i>Barnesianus</i> , p. 185    | 34 — <i>Confertus</i> , p. 200                                   |
| 15 — <i>Solidus</i> , p. 186        | 35 — <i>Pictus</i> , p. 191                                      |
| 16 — <i>Luteolus</i> , p. 192       | 36 — <i>Divaricatus</i> , p. 197                                 |
| 17 — <i>Productus</i> , p. 205      | 37 — <i>Modioliformis</i> , p. 209                               |
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| 20 — <i>Ascia</i> of Benson, APP.   | APP.   |
|                                     | 41 — <i>Radula</i> , Benson, APP.                                |
|                                     | 42 — <i>Velaris</i> , Benson, APP.                               |
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|                                     | 44 — ( <i>Alasmodonta</i> ) <i>Radia-</i><br><i>tus</i> , p. 212 |
|                                     | 45 — <i>Stramineus</i> , p. 209                                  |
|                                     | 46 — <i>Arcus</i> , p. 207                                       |

\* Repeated by mistake. Is acknowledged by Lea to be an aged *Pliciferus*.

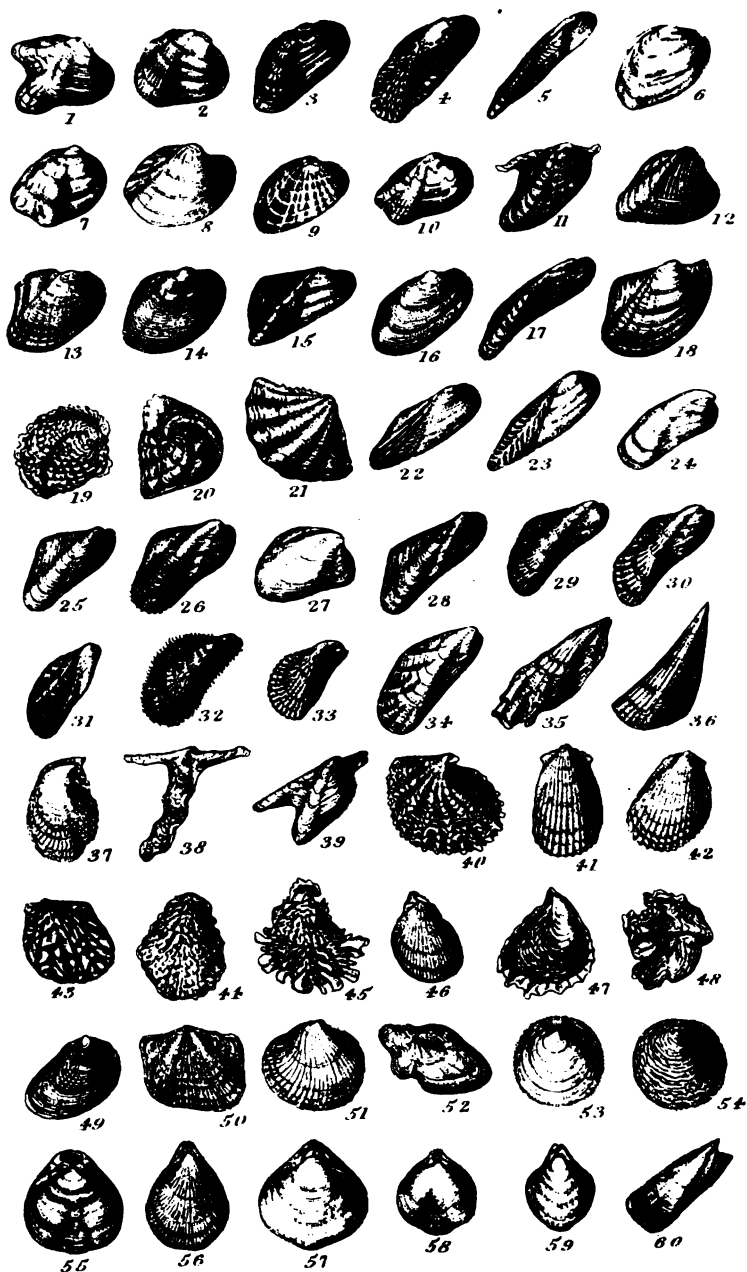




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- 47 *Unio Arctatus*, p. 207
- 48 — *Monodontus*, p. 210
- 49 — *Tetralasmus*, p. 198
- 50 — *Declivis*, p. 200
- 51 — *Apiculatus*, p. 178
- 52 — *Confragosus*, p. 210
- 53 — *Platyrrhynchus*, p. 205
- 54 — *Crassissimus*, p. 209
- 55 — *Leeai*, p. 182
- 56 — *Spinusus*, p. 182
- 57 — *Childreni*, p. 193
- 58 — *Smithii*, p. 195
- 59 — *Bonellii*, p. 212
- 60 — *Delphinulus* of Morelet, APP.

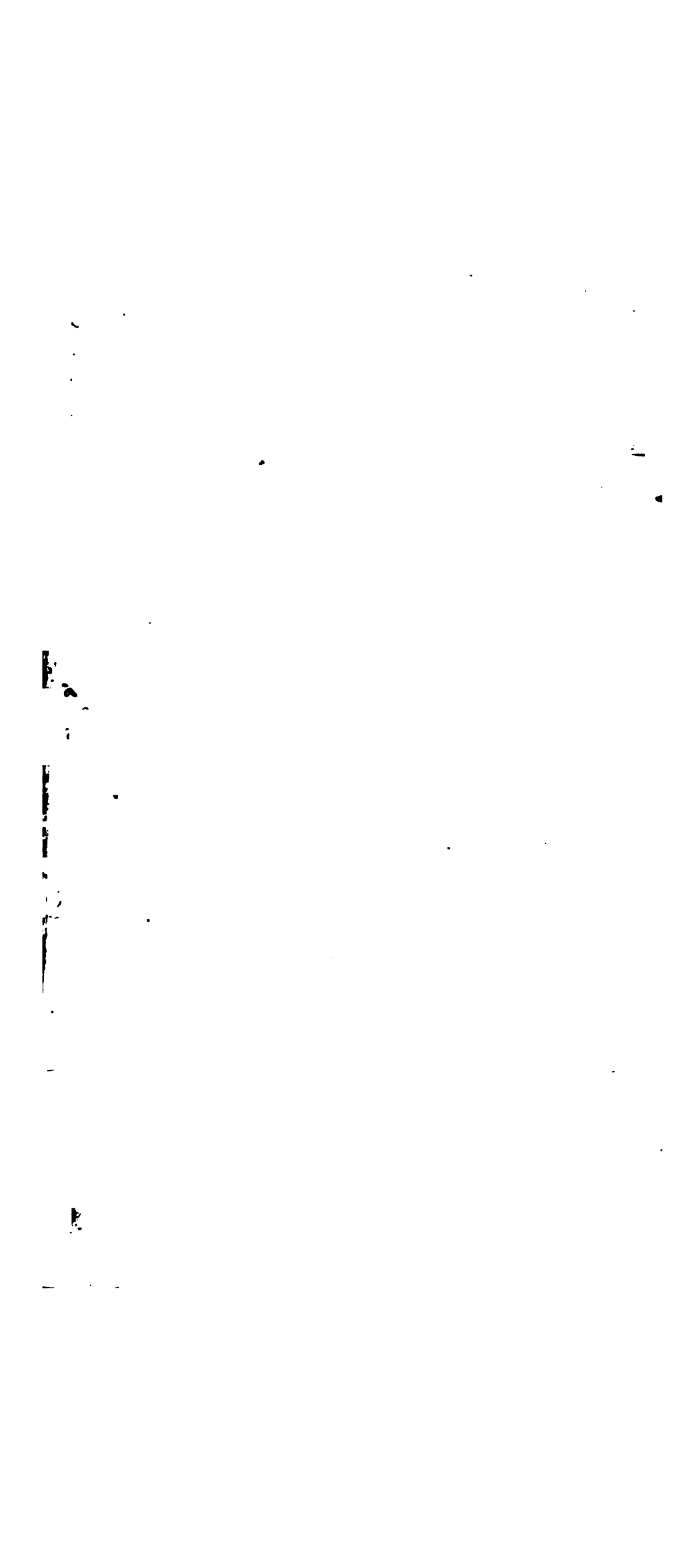
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- 1 *Unio Foliatas*, p. 176
- 2 — *Haysianus*, p. 188
- 3 — *Hembeli*, APP.
- 4 — *Cucumoides*, APP.
- 5 — *Grayanus*, p. 177
- 6 — *Greenii*, p. 191
- 7 — *Æsopus*, p. 181
- 8 — *Ventricosus*, p. 189
- 9 — *Amænus*, APP.
- 10 — *Curreyanus*, APP.
- 11 *Hyria Avicularis*, p. 214
- 12 *Castalia Inflata*, p. 173

- 13 *Anodonta Wahlamatensis*, p. 215
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- 15 — *Angulata*, p. 222
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- 17 — *Ensiformis*, p. 223
- 18 — *Blainvilleana*, p. 222
- 19 *Chama Pellucida*, p. 828
- 20 *Cleidotherus Chamoides*, p. 228
- 21 *Tridacna Serrifera*, p. 232
- 22 *Modiola (Lithodomus) Canalicifera*, p. 239
- 23 — *(Lithodomus) Plumula*, p. 239
- 24 — *(Lithodomus) Cinnamomea*, p. 238
- 25 — *Metcalfei*, p. 235
- 26 — *Philippinarum*, p. 235
- 27 — *Trapesina*, p. 237
- 28 — *Elongata (as Cuneiformis)*, p. 237
- 29 — *Striatula*, p. 241
- 30 — *Subramosa*, p. 241
- 31 *Mytilus (Dreissena) Leucophaæatus*, p. 251
- 32 — *Hirsutus*, p. 244

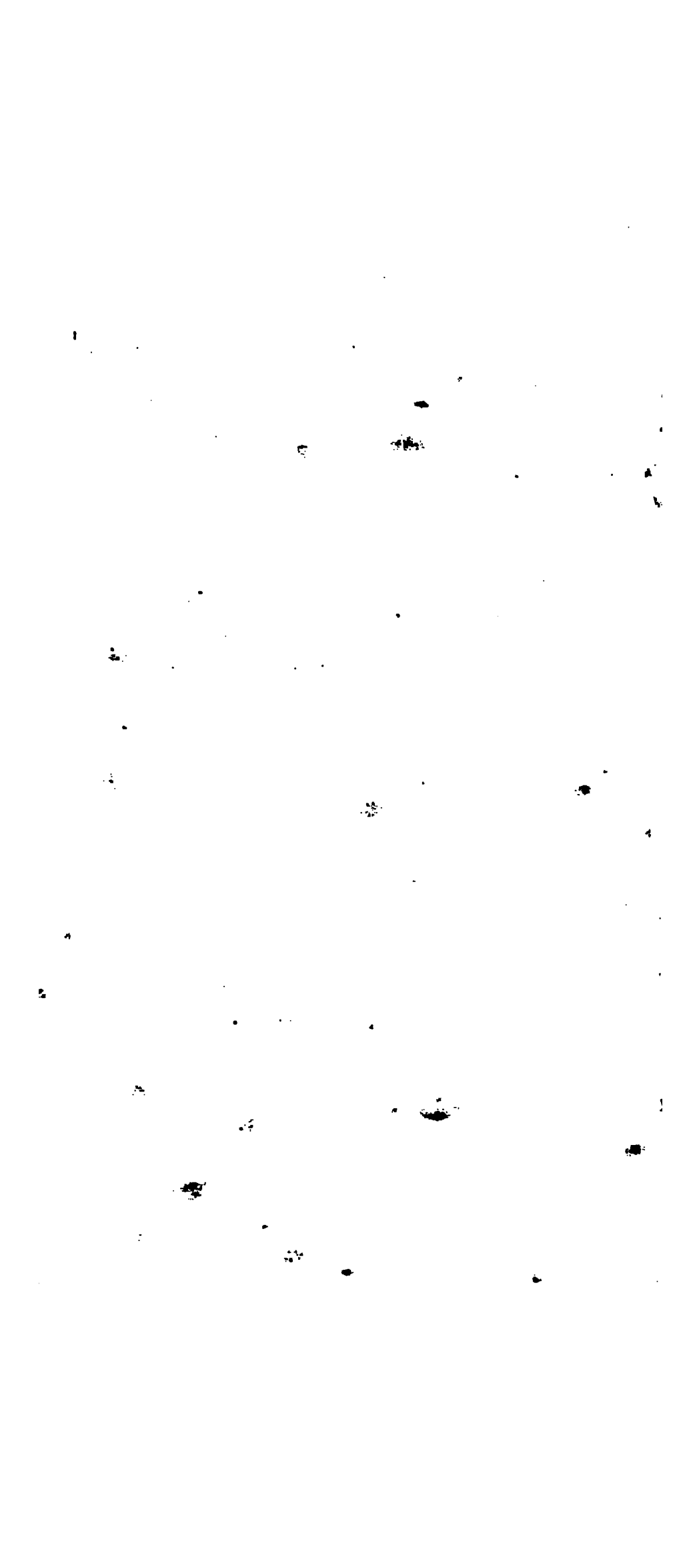
- |  |   |
|--|---|
| 33 <i>Mytilus Granulatus</i> , p. 246      | 49 <i>Vulsella Ovata</i> , p. 311                               |
| 34 ——— <i>Strigatus</i> , p. 251           | 50 <i>Placuna Papyracea</i> , p. 312                            |
| 35 <i>Pinna Saccata</i> , p. 253           | 51 <i>Anomia Elyros</i> , p. 314                                |
| 36 — <i>Atropurpurea</i> , p. 255          | 52 ——— <i>Ænigmatica</i> , p. 313                               |
| 37 <i>Perna Costellata</i> , p. 259        | 53 <i>Discina</i> (= <i>Orbicula</i> ) <i>Lævis</i> ,<br>p. 317 |
| 38 <i>Malleus Albus</i> , p. 260           | 54 — — <i>Lamellosa</i> , p. 317                                |
| 39 <i>Avicula Semisagitta</i> , p. 261     | 55 <i>Terebratula Rubicunda</i> , p.<br>324                     |
| 40 <i>Meleagrina Mazatlanica</i> ,<br>APP. | 56 ——— <i>Septentrionalis</i> ,<br>p. 329                       |
| 41 <i>Lima Bullata</i> , p. 266            | 57 ——— <i>Californica</i> , p.<br>322                           |
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| 43 <i>Pecten Latiauritus</i> , p. 275      | 59 ——— ( <i>Magas</i> ?) <i>Cum-</i><br><i>ingii</i> , p. 331   |
| 44 <i>Plicatula Australis</i> , p. 288     | 60 <i>Lingula Hians</i> , p. 333                                |
| 45 <i>Spondylus Sinensis</i> , p. 294      |   |
| 46 ——— <i>Gussoni</i> , p. 295             |   |
| 47 <i>Ostrea Adriatica</i> , p. 296        |   |
| 48 ——— <i>Rosacea</i> , p. 304             |   |

<i>Amphidema</i>	41	341	<i>Crassina</i>	87	3.
<i>Anatina</i>	20	338	<i>Cucullaea</i>	151	
<i>Anatinella</i>		339	<i>Cycias</i>	89	3.
<i>Anomia</i>	312	389	<i>Cyrena</i>	92	3.
<i>Anodonta</i>	215	387	<i>Cyrenoida</i>		3.
<i>Area</i>	151	371	<i>Cypina</i>	95	3.
<i>Astemis</i>	106	356	<i>Cythera</i>	96	3.
<i>Asperillum</i>	1	335	<i>Cypriocardia</i>	149	3
<i>Avicula</i>	261	388			
			<i>Donax</i>	79	34
<i>Capsa</i>	86	349	<i>Ervilia</i>	343	
<i>Cardium</i>	129	363	<i>Etheria</i>	230	
<i>Cardita</i>	144	367	<i>Erycina</i>	39	34
<i>Cardilia</i>	151				
<i>Castalia</i>	173	378	<i>Fistulana</i>	3	32
<i>Chama</i>	226	387			
<i>Cleodromus</i>	227	387	<i>Gastroschena</i>	10	32
<i>Clavagelia</i>	2	335	<i>Galeomma</i>	59	32
<i>Corbula</i>	45	344	<i>Galathea</i>	94	
<i>Corbes</i>	74	348	<i>Glaucanome</i>	17	3.
<i>Crassatella</i>	35	340	<i>Glycimeris</i>	18	
<i>Crenatula</i>	256	388	<i>Gnathodon</i>	35	34
<i>Crania</i>	316				
<i>Cummingia</i>	42	343			



Dr. Isaac Lea

with Mr. H. Benson's  
Comments







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